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J. D. Drinan  
Editor

Haystack Pointing System:  
Auxiliary Real-Time Programs

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31 January 1966

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
LINCOLN LABORATORY

HAYSTACK POINTING SYSTEM:  
AUXILIARY REAL-TIME PROGRAMS

*J. D. DRINAN, Editor*

*Group 62*

TECHNICAL NOTE 1966-6

31 JANUARY 1966

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## ABSTRACT

A description is given of ten non-major subprograms in the Haystack Pointing System. These programs all operate in the real-time environment, but in a sense are embellishments to the system proper inasmuch as they are by design either utilitarian to system operation or perform minor system functions. The additional system capabilities provided by this set of subprograms include: alteration of memory locations; modification of certain system parameters; constant monitoring of selectable memory locations; pointing of the antenna to any azimuth and elevation or right ascension and declination; outputting of certain planning information "on-line"; strip chart recording; magnetic tape recording; high-speed printer interfacing and Westford/Millstone intersite coupling.

Accepted for the Air Force  
Franklin C. Hudson  
Chief, Lincoln Laboratory Office

## HAYSTACK POINTING SYSTEM: AUXILIARY REAL-TIME PROGRAMS

### INTRODUCTION

The ten programs described in this document play important but non-major roles in the operation of the Haystack Pointing System. They all function in "on-line" operation of the system as distinguished from another set of minor programs which operate peripherally to the system.

A brief abstract of each program is given in alphabetical order along with the name of each author.

The listings for the individual programs are found in a separate section at the end of this memo.

CHANGE CORE    S. J. White    Page 3

The contents of any memory location can be changed as the system operates. Typeout of the specified location, old and new contents is given.

CHANGE PARAMETER    A. A. Mathiasen                                  Page 5

Certain selected system parameters can be changed by typing in the symbolic parameter name and the new value.

DYNAMIC DUMP    S. J. White    Page 8

The contents of one to eight selected memory locations, along with the name of the system program that has just operated, can be examined on the high-speed printer after the operation of each system program.

FIXED AZIMUTH-ELEVATION    A. A. Mathiasen                                  Page 18

The system can be directed to point at any desired azimuth or elevation.

FIXED RIGHT ASCENSION-DECLINATION    A. A. Mathiasen                                  Page 20

The system can be directed to a point in space having any right ascension, declination and radius. The rates of change of any of these quantities can be varied.

PLANNING    J. D. Drinan    Page 22

In the simulation mode, if jump key 2 is on, rise times and set times of the object under surveillance are logged on the high-speed printer.

PLOT

R. Teoste

Page 25

Command azimuth and elevation angles and their differences from actual antenna angles along with time marks are plotted on the channel 5 strip chart recorder. Adjustment and calibration facilities are provided.

PR LOG

S. J. White

Page 29

Messages to be output on the high-speed printer are accepted from any system program. Priority indication and page spacing facilities are provided.

RECORDING

J. D. Drinan

Page 38

A. A. Mathiasen

A central facility is provided for handling all of the magnetic tape recording as requested by any of the system programs.

WFORD/MSTONE INTERSITE COUPLING

J. D. Drinan

Page 50

As the Haystack Pointing System cycles, pointing information in the form of azimuth, elevation, range, and doppler data is automatically output to both the West Ford and Millstone sites.

## CHANGE CORE

### INTRODUCTION

The Change Core Program (CHCOR) permits changing the contents of any core location in the Haystack Pointing System while it is in operation.

### INPUT

Location address and new contents are entered via the console typewriter.

### OUTPUT

The specified address, old contents and new contents will be typed out on the console typewriter and the desired core change made.

### OPERATION

CHCOR is called to operate via the "attention" symbol route. The user, in response to the message "E. L. + C." (enter location and contents) typed out on the console typewriter, types in an octal address followed by a carriage return.\* This address is the location whose contents are to be changed. Next, the user types in the new contents in octal, again followed by a carriage return. (Leading zeros need not be typed.)

Typeouts of the specified address, old contents and new contents will then be provided on the console typewriter.

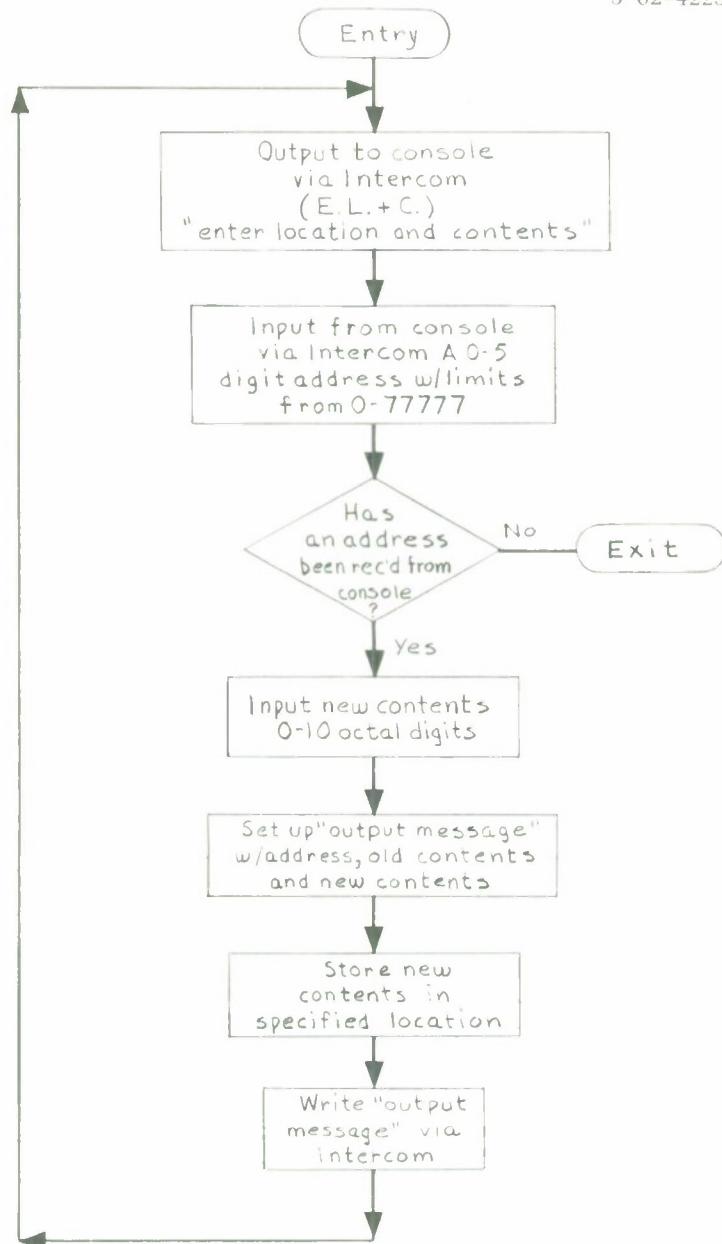
The program will continue to cycle until the answer to a request for an input is a carriage return alone.

#### Example: (Console Listing)

```
E. L. + C.  
76543*  
7777654321*  
76543 1234567777 7777654321  
E. L. + C.  
16345*  
10*  
16345 1035061111 0000000010  
E. L. + C.  
*
```

\*Note: The console output for a carriage return is the asterisk.

3-62-4223



CHANGE CORE PROGRAM

## CHANGE PARAMETER

### INTRODUCTION

The parameter program enables an experimenter to change certain selected constants in the Haystack Pointing System easily by typing in the name of the parameter and its value. This should be done immediately after bootstrap or before starting a new experiment. The new parameters are valid only until the pointing system is read in anew by the bootstrap procedure, at which time the values compiled into the system are used. If a permanent change is desired, the new value must be compiled into the program which sets up the Common Storage register.\*

The setting in of numbers like site latitude, longitude, height, the frequencies of Haystack and Westford or the equatorial and polar radii of the earth are straightforward.

The register DELTATEE contains the difference in days between ephemeris time and universal time and is found in the table "ΔT, Reduction from Universal Time to Ephemeris Time" in the beginning of the American Ephemeris and Nautical Almanac, and should be set if accurate output is desired for other than the current year. For the current year, the correct value should be compiled into the program that sets up this register.\*

The register AZIMOVER which has the azimuth overlap indicator<sup>†</sup> should be set to the proper value to ensure a complete run on the object to be tracked without running into the cable wrap limits. A positive value (such as +0) starts the antenna in the non overlap region ( $0^{\circ} \leq \text{Azimuth} \leq 360^{\circ}$ ). A negative value (which may be entered as -0) starts the antenna in the overlap region ( $-120^{\circ} \leq \text{Azimuth} \leq 0^{\circ}$  or  $360^{\circ} \leq \text{Azimuth} \leq 480^{\circ}$ ). The azimuth overlap indicator is set to +0 upon bootstrapping in the system, but subsequently is not changed by any program (except CHANGE PARAMETER). Thus if in a run the antenna moves from the non-overlap region to an overlap region, AZIMOVER is not changed so that a new

\* See "Haystack Pointing System: Control Program" by J. D. Drinan and A. A. Mathiasen (in preparation).

† See "Haystack Pointing System: Acquisition" by R. Teoste (in preparation).

run would unwind the antenna into the non-overlap region unless AZIMOVER is now set negative.

## OPERATION

Upon initialization by way of the attention symbol and the appropriate options, the parameter program types the following:

### CHANGE PARAMETERS

NAME OF PARAMETER, CARRIAGE RETURN, NEW VALUE, CARRIAGE RETURN.

WHEN FINISHED CHANGING PARAMETERS, PRESS CARRIAGE RETURN AN EXTRA TIME.

The experimenter then types the parameter name followed by a carriage return, and the new value, followed by a carriage return. When he has no more new values, he types simply carriage return. Thus, a typical sequence might be the following (where \* indicates a typed carriage return):

GEODETLAT\*

45. Ø\*

LONGITUDE\*

233. Ø\*

\*

When the sequence is ended, the parameter program returns to the Master Control Program in its initialization section but after common storage set up.

### CHANGEABLE PARAMETERS

The Common Storage registers which may be changed are given in the following table:

Name	Contents	Scaling	Lower and Upper Limit
DELTATEE	Ephemeris Time - Universal Time	Days B28	- .00005 + .001
FREQUENCY	Haystack Radar Frequency	Megacycles B14	0 10,000
WFFREQ	Westford Frequency	Megacycles B14	0 10,000
LONGITUDE	Haystack Longitude	Degrees B20 + is east	-360 +360
GEODET LAT	Haystack Geodetic Latitude	Degrees B20 + is north	-90 +90
HEIGHT	Haystack Height	Feet B0	-300 30,000
EQUATOR	Equatorial Radius	Nautical Miles B17	3,000 4,000
POLE	Polar Radius	Nautical Miles B17	3,000 4,000
AZIMOVER	Azimuth Overlap Indicator	Octal + = non-overlap - = overlap	None

Other parameters may be easily incorporated into the program. The format of an addition to the table follows:

Word 1	FD · 2 · Name of parameter
Word 3	FD · 1 · Scaling
Word 4	XX · Name of parameter
Word 5	Lower Limit
Word 6	Upper Limit

The scaling is explained in a separate memo on Intercom. XX is the setting of the carriage and the limit checking as explained in the same memo. Words 3 to 5 make up part of the calling sequence to Intercom.

## DYNAMIC DUMP

### INTRODUCTION

The purpose of the Dynamic Dump Program (DYDMP) is to print dynamically the contents of one to eight core locations on the high-speed printer, as the pointing system cycles. The contents of the core locations selected, and the name of the system program that has just operated, are printed after the operation of each system program. DYDMP uses the Printer Logging Program (PRLOG) for output to the high-speed printer(HSP).

### INITIALIZATION

One must first gain entrance to the initialization section of DYDMP. This is accomplished by depressing the attention symbol while the Haystack pointing system is in operation. Proper selection of the coded figures, as in Appendix A, produces a typeout from DYDMP of:

ENTER LOCATION

In answer to this typeout, type an octal number of one to five digits such as:

63141

followed by a carriage return.

Once again the typeout

ENTER LOCATION

is produced. This will continue for a total of 8 entries, or until a carriage return alone is given in response to an output. (See Appendix A)

### OUTPUT

When the user has signaled (carriage return alone) that he is finished specifying locations to be dumped or has specified the maximum of eight locations, DYDMP prints a heading line on the HSP and exits to Master Control Program (MCP). Thereafter, each time it is entered in the working section, DYDMP will print one line containing the name of the system program that has just operated as well as the contents of the specified locations at that time. (See Appendix B.) Since

MCP calls DYDMP (when activated) after each system program output will occur at these times. Output of the contents of the selected locations will continue until the user reinitializes DYDMP.

## REINITIALIZATION

Entering the initialization section of DYDMP for the second time via the attention symbol route, as in Appendix C, effects the typeout:

STOP (Y-N)

i. e., should the operation of DYDMP be stopped, yes (Y) or no (N)?

Answering N causes an additional typeout to appear on the console.

Change O/P (0-7)

i. e., which of the 8 columns of output 0-7, should the address be changed?

Typing

4

would mean that in the fifth column, the address of the contents, now being printed, is to be changed. The program then types:

ENTER LOCATION

Now the new address replacing the one in the fifth column is entered. Again this continues for a total of 8 entries or until a carriage return alone is given in answer to an output. Henceforth, as shown in Appendix D, the contents of the addresses that have been changed will be printed out along with the ones unchanged.

To stop the operation of DYDMP, one merely answers Y to the initial question above.

## APPENDIX A

SIGN OFF (1) MOD (2) NEXT RUN (3) PRINT (4)  
2\*

MOON (1) SCAN (2) RECORDING (3) RADIOMETER (4) TIMING (5) OTHER (6)  
6\*

RA-DEC DISPLAY (1) CORRECTION (2) PARAMETERS (3) ACQUISITION (4)  
CC (5) DYDMP (6)  
6\*

ENTER LOCATION  
63141\*

ENTER LOCATION  
12345\*

ENTER LOCATION  
123\*

ENTER LOCATION  
5\*

ENTER LOCATION  
54321\*

ENTER LOCATION  
321\*

ENTER LOCATION  
1\*

ENTER LOCATION  
22222\*

## APPENDIX B

## APPENDIX C

SIGN OFF (1) MOD (2) NEXT RUN (3) PRINT (4)  
2\*

MOON (1) SCAN (2) RECORDING (3) RADIOMETER (4) TIMING (5) OTHER (6)  
6\*

RA-DEC DISPLAY (1) CORRECTION (2) PARAMETERS (3) ACQUISITION (4)  
CC (5) DYDMP (6)  
6\*

STOP (Y-N)  
N\*

CHANGE O/P (0-7)  
4\*

ENTER LOCATION  
1Ø\*

CHANGE O/P (0-7)  
7\*

ENTER LOCATION  
33333\*

CHANGE O/P (0-7)  
\*  
Ø

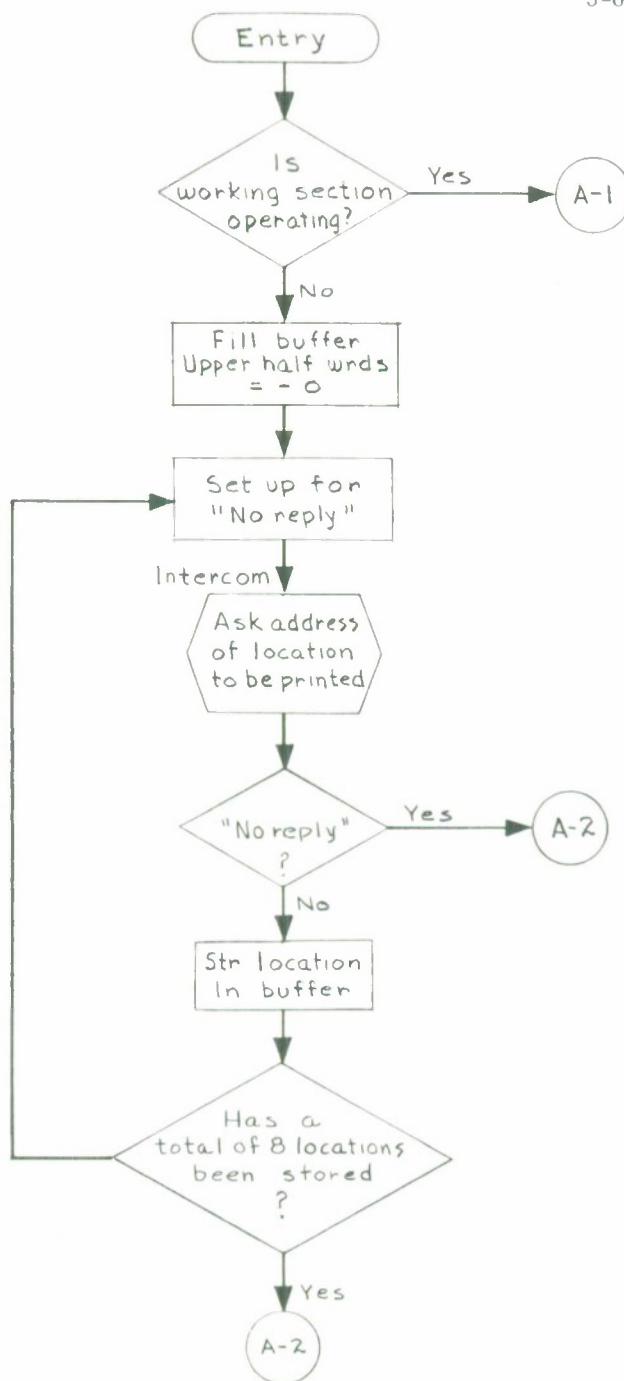
SIGN OFF (1) MOD (2) NEXT RUN (3) PRINT (4)  
2\*

MOON (1) SCAN (2) RECORDING (3) RADIOMETER (4) TIMING (5) OTHER (6)  
6\*

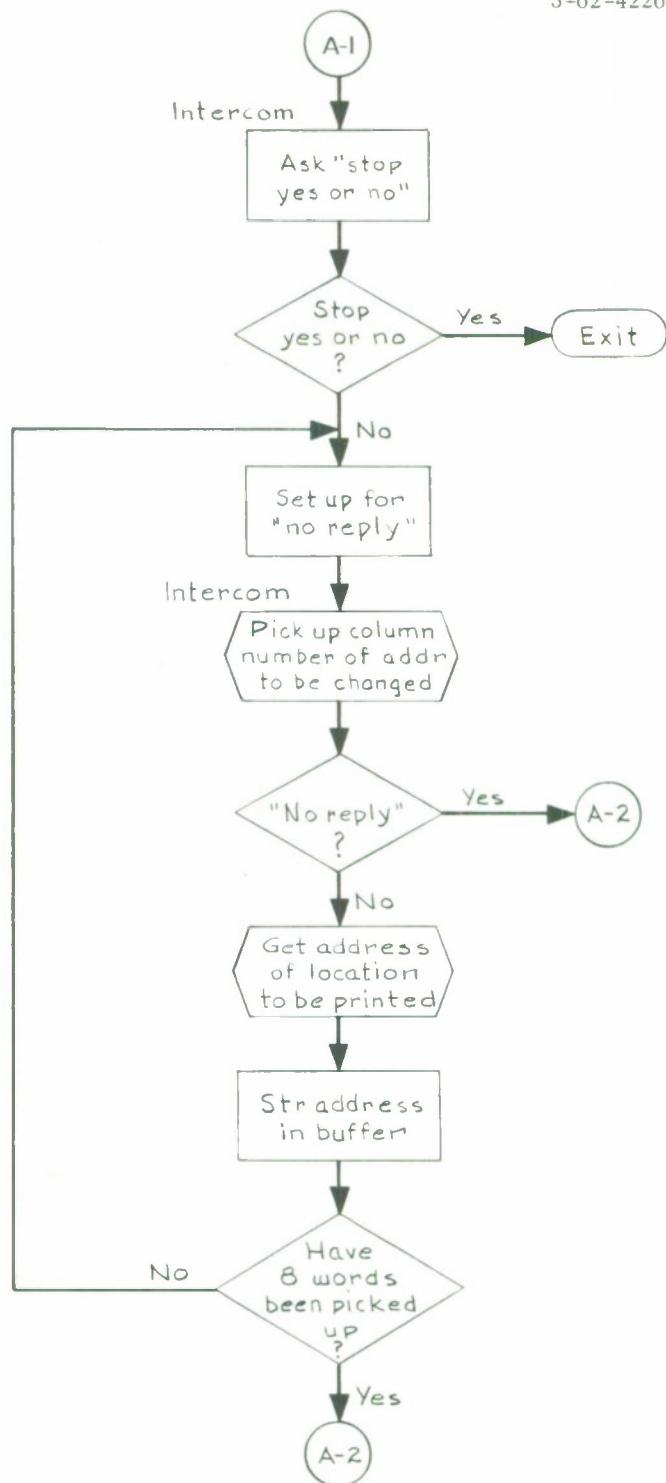
RA-DEC DISPLAY (1) CORRECTION (2) PARAMETERS (3) ACQUISITION (4)  
CC (5) DYDMP (6)  
6\*

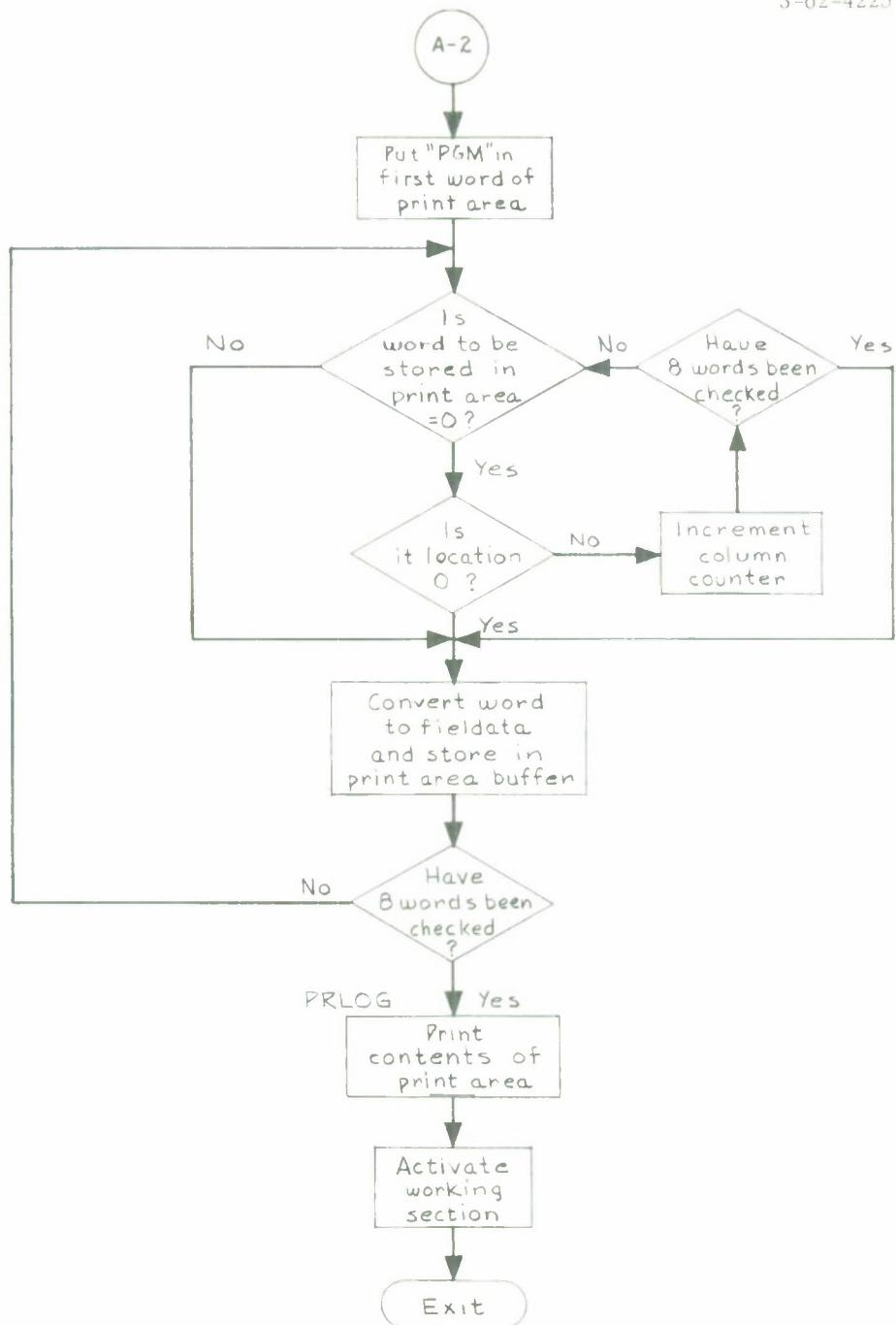
STOP (Y-N)  
Y\*

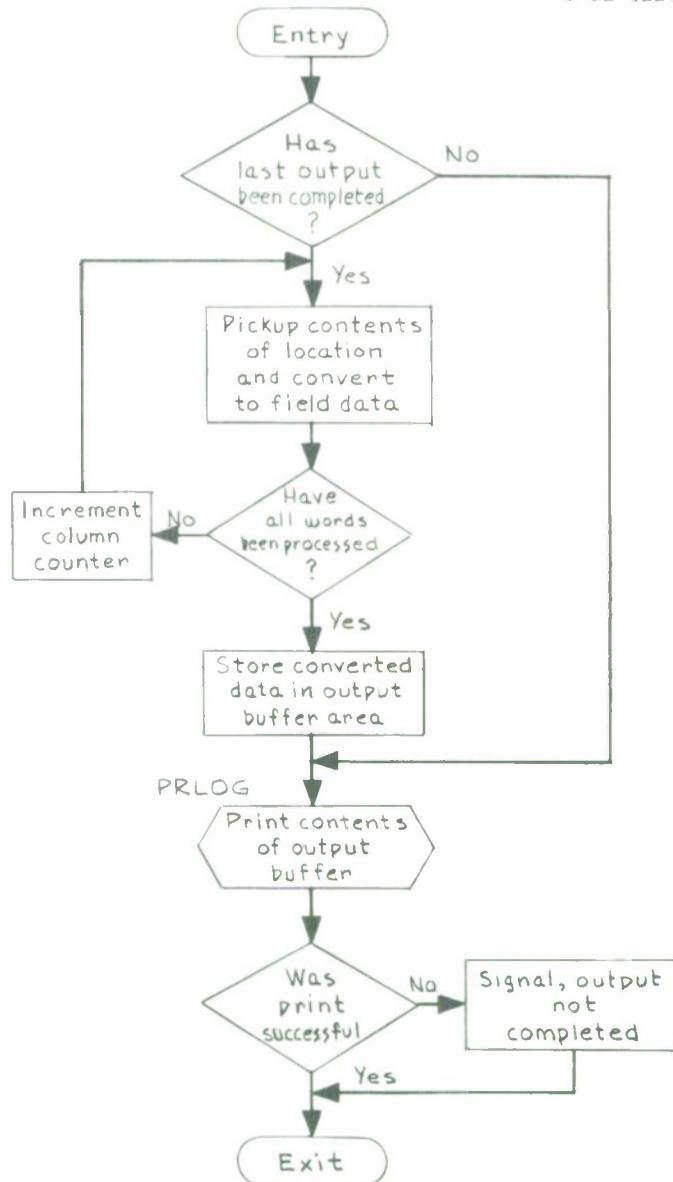
## APPENDIX D



DYNAMIC DUMP PROGRAM INITIALIZATION SECTION







DYNAMIC DUMP WORK SECTION

## FIXED AZIMUTH-ELEVATION

### INTRODUCTION

The fixed azimuth and elevation program provides a means for pointing the Haystack antenna at any azimuth or elevation.

### OPERATION

Upon initialization, the fixed azimuth and elevation program allows input of a single azimuth and a single elevation. Following is a typical sequence of questions and answers:

AZIMUTH(DEGREES)

182.3\*

ELEVATION (DEGREES)

47.61\*

Upon reinitialization, i.e., when the antenna buffer chain is operating and the fixed azimuth elevation program is chosen via the Attention Symbol route, the program types out the following:

AZIMUTH (DEGREES) PREFIXING WITH A, OR

ELEVATION (DEGREES) PREFIXING WITH E.

A CARRIAGE RETURN IS NECESSARY AFTER PREFIXED LETTER.

The initialization section "keeps control" allowing rapid changing of azimuth or elevation. The experimenter may enter azimuth or elevation about as fast as he can type. Following is a possible sequence.

A\*

179.3\*

A\*

171.65\*

E\*

47\*

A\*

152\*

E\*

48. 1\*

Until the attention symbol is again typed, the initialization section of fixed azimuth-elevation retains communications with the experimenter.

If a mistake in typing a prefix is made, the program types an error message. Thus,

B\*

YOU HAVE TYPED ILLEGAL PREFIX. TRY AGAIN.

A\*

157. 6\*

COMMON STORAGE SET

AZIMUTH

ELEVATION

## FIXED RIGHT ASCENSION-DECLINATION

### INTRODUCTION

The fixed right ascension-declination program provides a means for pointing the Haystack antenna at any desired right ascension or declination. The program also provides a means for entering radius, or the rates of change of any of these three quantities.

### OPERATION

Upon initialization, the program requests via Intercom various inputs. A typical question and answer sequence might be the following:

```
RIGHT ASCENSION (DEGREES)
    123. *
DECLINATION (DEGREES)
    -21. 4*
RADIUS (EARTH RADII)
    52. 35*
R. A. DOT (DEGREES/SEC)
    -. 0632*
DEC. DOT (DEGREES/SEC)
    . 001*
RADIUS DOT (NAUTICAL MILES/SEC)
    -3. 76*
```

When the program is reinitialized and the azimuth buffer chain is operating, the program types out the following:

```
RIGHT ASCENSION (DEGREES), PREFIXING WITH A,
DECLINATION (DEGREES), PREFIXING WITH D,
RADIUS (EARTH RADII), PREFIXING WITH R,
RADOT (DEGREES/SEC), PREFIXING WITH B,
DECDOT (DEGREES/SEC), PREFIXING WITH E, OR
RADIUSDOT (N. M. /SEC), PREFIXING WITH S.
A CARRIAGE RETURN IS NECESSARY AFTER PREFIXED LETTER.
```

A typical answer sequence might be

A\*  
37. 6\*  
D\*  
- 10. 7\*  
R\*  
32. 5\*  
A\*  
39\*  
S\*  
2. 7\*  
B\*  
. 06\*

Until the attention symbol is typed the experimenter remains in communication with the fixed right ascension-declination program.

When the program is reinitialized upon the Pointing System's reaching the System Time Limit, the program does not ask for inputs, but keeps the values it had.

The working section of the program is merely a dummy program.

#### COMMON STORAGE SET

RADIUS  
RA  
DEC  
RADIUSDOT  
RADOT  
DECDOT

## PLANNING

### INTRODUCTION

The Haystack Pointing System Planning Program (PLAN) provides the user of the System with a means of conveniently determining the rise time and set time of the object under surveillance. However, two conditions must be met before PLAN will operate and provide this information. The first of these is that the Haystack Pointing System must be operating in the simulation mode and secondly jump key 2 must be turned on.

### INPUT

PLAN uses Common Storage (C/S) Registers ELEV, FIRSTELEV, and CELTIME.

### OUTPUT

PLAN uses the high-speed printer via the PRLOG subroutine to print out the rise and set information.

### INITIALIZATION SECTION

PLAN is initialized only when the System is about to cycle in the simulation mode. When this occurs the contents of C/S ELEV, which now contains the most recently computed elevation, is transferred to C/S FIRSTELEV for later comparison in the operation section.

### OPERATION SECTION

Once during each cycle of the System in the simulated mode, the operation section of PLAN is entered. This occurs after the System has computed the new elevation corresponding to the time in CELTIME.

Unless jump key 2 is on PLAN will make an immediate return to the control program. When the key is on, PLAN compares the most recently computed elevation in C/S ELEV with the elevation computed one System cycle earlier saved in C/S FIRSTELEV. If both elevations have the same sign, no change in visibility is assumed to have occurred. If on the other hand the elevation has gone from minus

plus from the previous frame to this, a change of visibility status from invisible to visible is understood.\* The inverse, of course, is true. Thus, if a change of sign has occurred, the time of computation in C/S CELTIME is converted and one of the following messages is output via PRLOG:

ROSE AT 12 05 06 , say,

or

SET AT 12 05 06

exit is then made to the control program.

---

\*NOTE: The difference in the reported rise and set times and the actual rise and set times can approach the "increment to GMT" elected by the user when initializing the system.

SIGN OFF (1) MOD (2) NEXT RUN (3) PRINT (4)  
2\*

SUN (1) DATA PROCESSING (2) SCAN (3) RECORDING (4) TIMING (5) OTHER (6)  
6\*

RA-DEC DISPLAY (1) CORRECTION (2) PARAMETERS (3) ACQUISITION (4)  
7\*

DO YOU WANT TO ADJUST STRIP CHART RECORDER (Y OR N)  
Y\*

CARRIAGE RETURN TO STOP ADJUSTMENT  
\*

Fig. 1. Sample of on-line log.

## PLOT

The Pointing Program System contains a routine which drives the strip chart recorder that is connected to the computer by means of the general purpose output channel No. 5. Whenever the Pointing Program System is asked to command the antenna in real time, the commands are subtracted from the actual antenna angles and the resulting difference is plotted on the strip chart recorder. The errors in azimuth and elevation axes are plotted on separate recorder channels. The antenna azimuth and elevation are recorded on two additional channels. A time mark is recorded on the chart at the beginning of every minute.

A facility for adjusting and calibrating the recorder is provided. Upon request through the keyboard, adjusting signals are output to the recorder. When adjustments have been made, a calibration record will be recorded on each channel, which shows linearity of the plot.

The on-off control of the recorder paper drive is accomplished through the computer automatically.

## PROGRAM INPUTS

The program uses the following in-core inputs:

U(INELEVADD)	The location of first word storage of the presently incoming elevation angle.
W(112)	Elevation buffer control word.
L(SYSTAT1)	Code for indicating that the system is cycling. (Plus means system is cycling, minus means system is stopped.)
U(SECONDS)	Time in seconds B0

In addition to the above, the program uses the real-time antenna angles and commands from the appropriate buffers.

Figure 1 shows the on-line communication sequence for calibrating the system. The program can be controlled only through the attention symbol path.

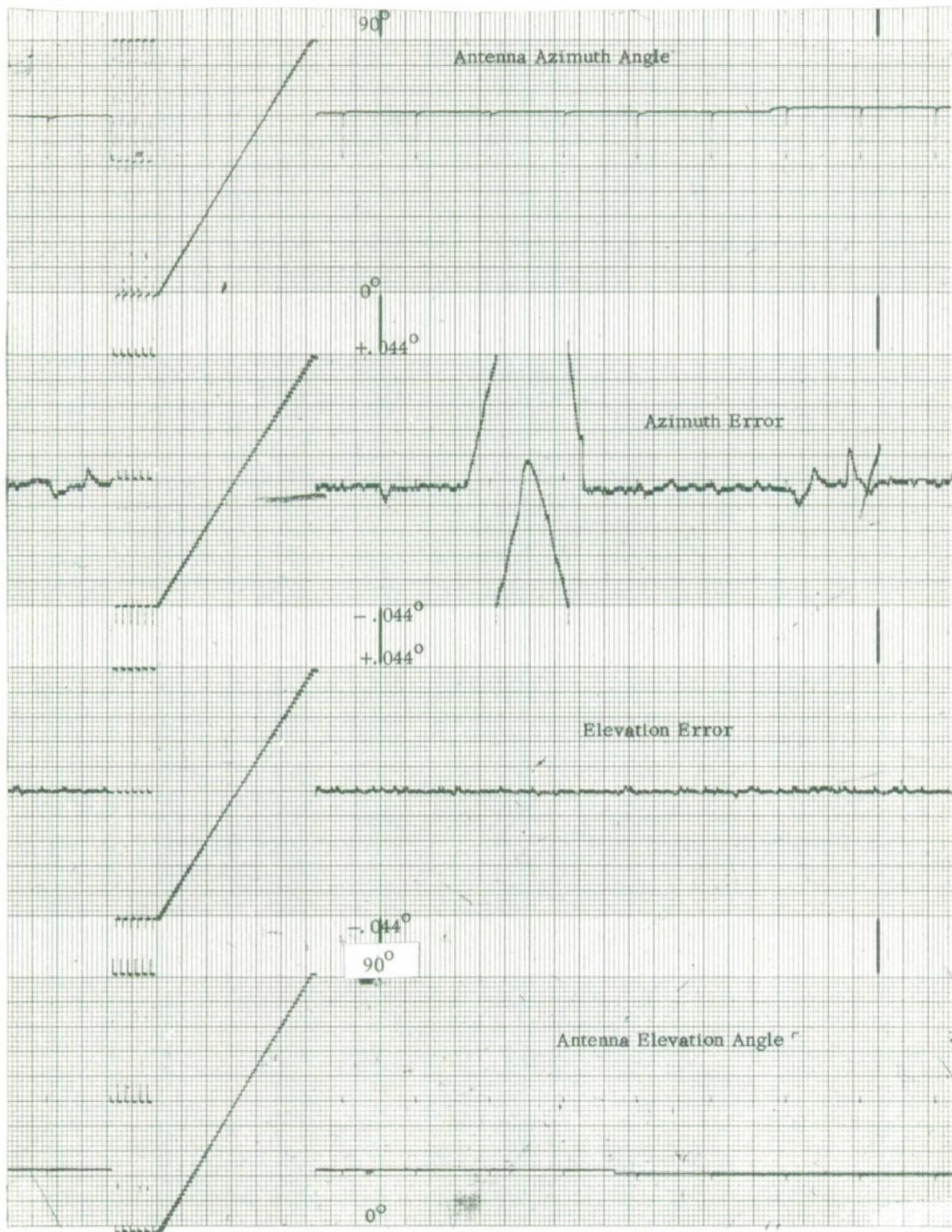


Fig. 2 Sample strip chart recording.

## PROGRAM OUTPUTS

The output on the strip chart recorder is shown on Fig. 2. Initially the figure shows the plotted errors and angles in the indicated channels, as they would appear on a normal run. Then the adjust mode was requested through the attention symbol entry. A few cycles of adjust mode are shown; however, this mode can be kept as long as desired until proper adjustments have been made. When the adjust mode is stopped by means of the keyboard, a calibration record will be recorded as shown and the recorder will return to the normal mode of plotting antenna angle information.

The scale factors for plotting are fixed. As shown by Fig. 2, the azimuth and elevation angles are plotted with  $90^{\circ}$  as full scale. Angles in other quadrants are plotted modulo  $90^{\circ}$ , so that an uncertainty exists. The recorder resolution is 64 levels. In the error signal plots one level corresponds to twice the low order bit resolution of the antenna encoder system, with the zero reference signal half way up the charts. This provides a full scale error amplitude of approximately  $\pm .044^{\circ}$ . If the error magnitude exceeds  $.044^{\circ}$ , the pen will move to the other side of the graph and continue plotting larger errors. The example of Fig. 2 shows this phenomenon as the error was purposely made large on the azimuth axis.

## PROGRAM NOTES

The strip chart recorder is programmed by means of the external function on channel No. 5. The function word is divided into four six bit values to be plotted, one bit for turning on the recorder, and a fixed five bit code as follows:

29-25	Fixed code 01010
24	Paper drive code
23-18	Channel #4 value
17-12	Channel #3 value
11-6	Channel #2 value
5-0	Channel #1 value

The timing for the plot program is obtained from the elevation input buffer. Every two seconds the master control program gives a monitored IN command on

the elevation channel (channel 10). In the working entry of the Plot program, the buffer control word is changed so that a suitable time delay is obtained. The adjust and calibrate plots use a two second plotting increment, the normal data is plotted every .04 seconds and the time marks are .24 seconds long. When the interrupt occurs, a new buffer control word is set up so that the next interrupt occurs after the desired time increment.

Three entries exist to the program:

1. initialization entry
2. working entry
3. interrupt entry

The initialization entry (PLOTINIT) sets up the interrupt register on the elevation-input channel and, if the system is cycling, it asks the appropriate questions about adjusting and calibrating, and sets up a code for plotting mode in U(PLOT B). The code is:

- |   |                     |
|---|---------------------|
| 0 | for normal plotting |
| 1 | for adjustment      |
| 2 | for calibration     |

Every two-second cycle the Plot Program is entered by means of the working entry (PLOTWORK). This routine first examines the above code and acts according to what has been requested.

If the code indicates that normal plotting is required (POTCASE), the working section sets up the appropriate buffer control word for interrupts to occur at proper time intervals and plots a time mark if the beginning of a minute is detected.

If the code indicates that adjustment is to be performed (ADJUSTCASE), the program makes the pen move zero, half scale, full scale in two-second intervals.

If calibration is requested (CALCASE), a stair case will be plotted with two-second long steps one plotting increment high.

The interrupt entry (PLOTINTER), examines whether the system is cycling and either turns off the recorder or does the following: it writes a time mark if the beginning of a minute is indicated; otherwise it computes the differences between commands and the actual antenna angle, and plots them.

## PRLOG

### INTRODUCTION

The Printer Logging program (PRLOG) provides the means whereby any of the Haystack Pointing System programs may output information on the high-speed printer while the system is operating.

PRLOG transfers the field data information set up by the user program to one of the 20 buffer areas of its own.

As the printer becomes available, the program prints these areas in order received.

The calling sequence for PRLOG (described below) has provision for a priority structure among program messages. Additionally, page spacing facilities are provided.

### INITIALIZATION SECTION

PRLOG is initialized by the control program (MCP) during each system initialization.

### WORKING SECTION

Interaction between PRLOG and the user program is through the working section via U(PRLOG). PRLOG's working section first saves all operational registers it uses. Next, PRLOG's current in-out indexing registers are restored, and the pertinent information from the calling sequence is obtained. A check is made on the status of the high-speed printer. If the printer is not operative, the operational registers are restored and control is transferred to the user program's busy return. Otherwise, a check is performed to determine if the message to be printed is classified as emergency. If the message is not emergency data, further check is made to see if the RADIOMETER SWITCH\* is set. If the RADIOMETER SWITCH is set and the request for printing does not override this switch, control

---

\*This switch was first used in connection with the radiometer signal processing program; hence, the name.

will be transferred to the user program's busy return. If the request for printing does override this switch, or if the switch is not set, the message is handled as follows:

First a check is made to see if there is room for the message in PRLOG's 20 buffer areas. If there is no room, the operational registers are restored and control is returned to the user program's busy return. With room for more messages, the MOVEDATA routine transfers the data from the user program's buffer area to an empty internal buffer and indexes the input index register. If there is a previous message not yet fully printed, control is given to the user program's normal return. If the new message can be output at this time, it is. Requested spacing and top-of-paging are performed at this time. Lastly, the operational registers are restored and control is transferred to the user program's normal return.

If a message is labeled as "emergency" in the calling sequence, it is printed at the first available time, taking precedence over all other messages in the PRLOG internal buffer areas. In addition, emergency messages may space after printing (to bring the message into view of the operator).

#### INTERRUPT SECTION

As in the working section, the first operation in the interrupt section is to save the operational registers. If the interrupt status is anything but normal, a switch is set to "channel inoperative". The operational registers are restored and the program exits.

#### CALLING SEQUENCE

$\alpha$	RJP U(PRLOG)	
$\alpha + 1$	#Words	FWA
$\alpha + 2$	$\pm$ SBP	+ $\rightarrow$ TOP; - $\rightarrow$ SAP
$\alpha + 3$	BUSY RETURN	
$\alpha + 4$	NORMAL RETURN	

The first word of the calling sequence in the user program at  $\alpha$  contains  
RJP U(PRLOG)

The second word at  $\alpha + 1$  contains

1. (In the upper half) the number of field data words to be transferred from the user program to the PRLOG program's buffer area. A maximum of  $26_{10}$  words (128 characters) can be transferred at one time, to accommodate one line on the high-speed printer.
2. (In the lower half) the first word address of the data to be transferred.\*

The third word of the calling sequence at  $\alpha + 2$  is interpreted as follows:

1. (In the upper half) a dual parameter specifying both the identity of the user program and the number of lines the printer is to be spaced before printing this line (SBP).

PRLOG takes the absolute value of this parameter as the value for SBP. If SBP is negative, the setting of the RADIOMETER SWITCH is ignored. If SBP is positive, the line will not be printed if the RADIOMETER SWITCH is set. This feature allows specified programs to monopolize the printer (except for emergency messages).

2. (In the lower half) a dual parameter specifying a) the number of lines the printer is to space after printing the message if and only if the message is deemed of an emergency nature and b) whether or not a top-of-page is to be issued before printing this line.

If this parameter is positive (it may only be +0 or +1) PRLOG interprets this message as non-emergency and will take the following action:

- a. + 0 → no action
- b. + 1 → top-of-page before printing

If this parameter is negative PRLOG accepts this message as emergency data and will space after printing the number of lines equal to the absolute value of this parameter.

It should be noted that in the normal case there is no spacing after printing.

\*CAUTION . . . The field data character "STOP" (77<sub>8</sub>) must not be included in the field data string to be output. PRLOG provides stop information to the printer on partial line output.

The fourth word of the calling sequence at  $\alpha + 3$  is the busy return.

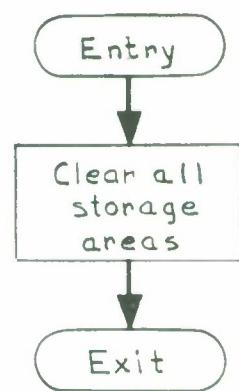
When control is returned here, the "A" register indicates the reason the request could not be accepted for output.

1. A positive zero indicates all the PRLOG buffer areas are full.
2. A negative zero indicates that the RADIOMETER SWITCH is set (and this calling sequence has a positive SBP), or that the printer channel is inoperative.

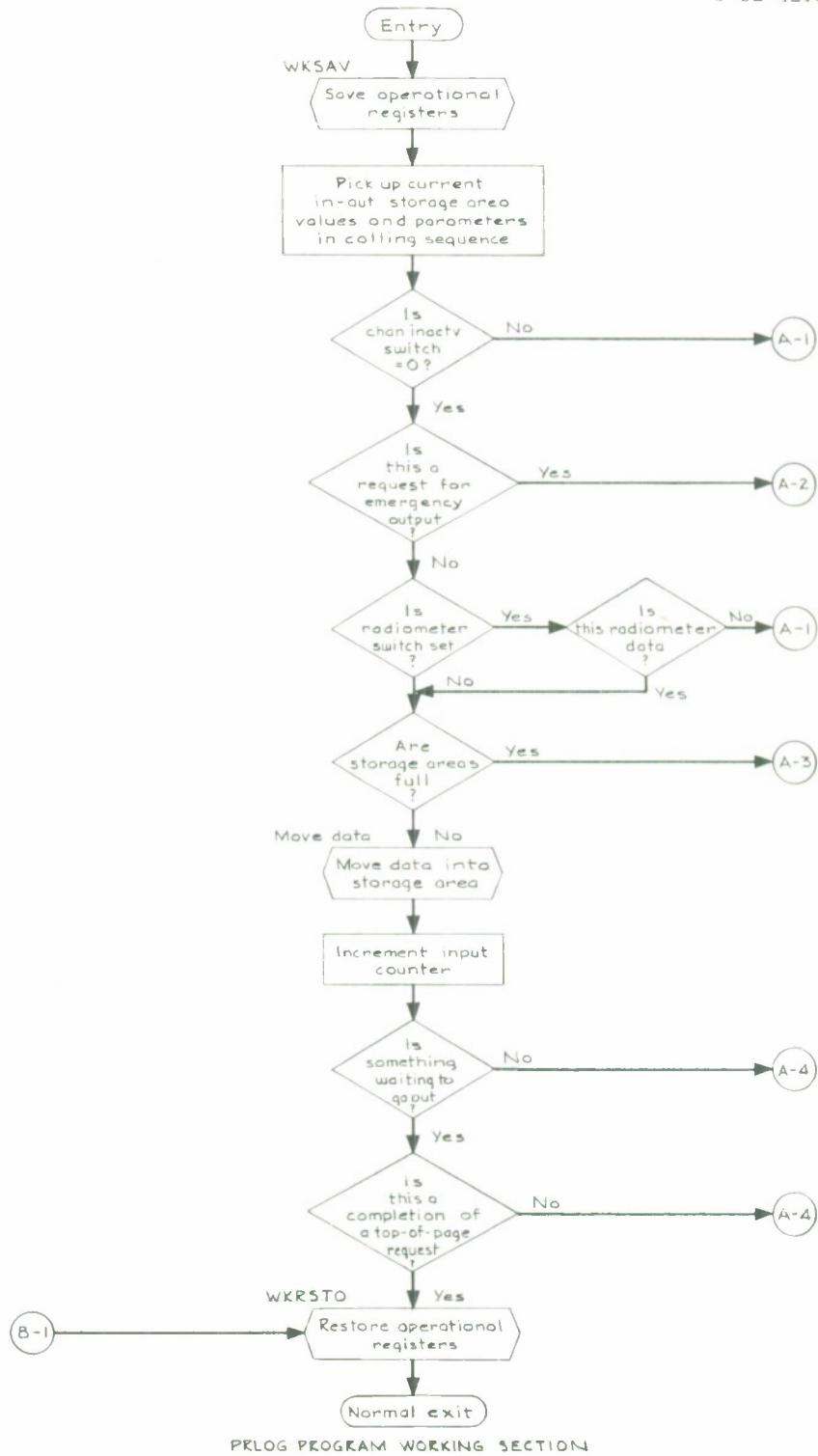
The fifth word at  $\alpha + 4$  is the normal return.

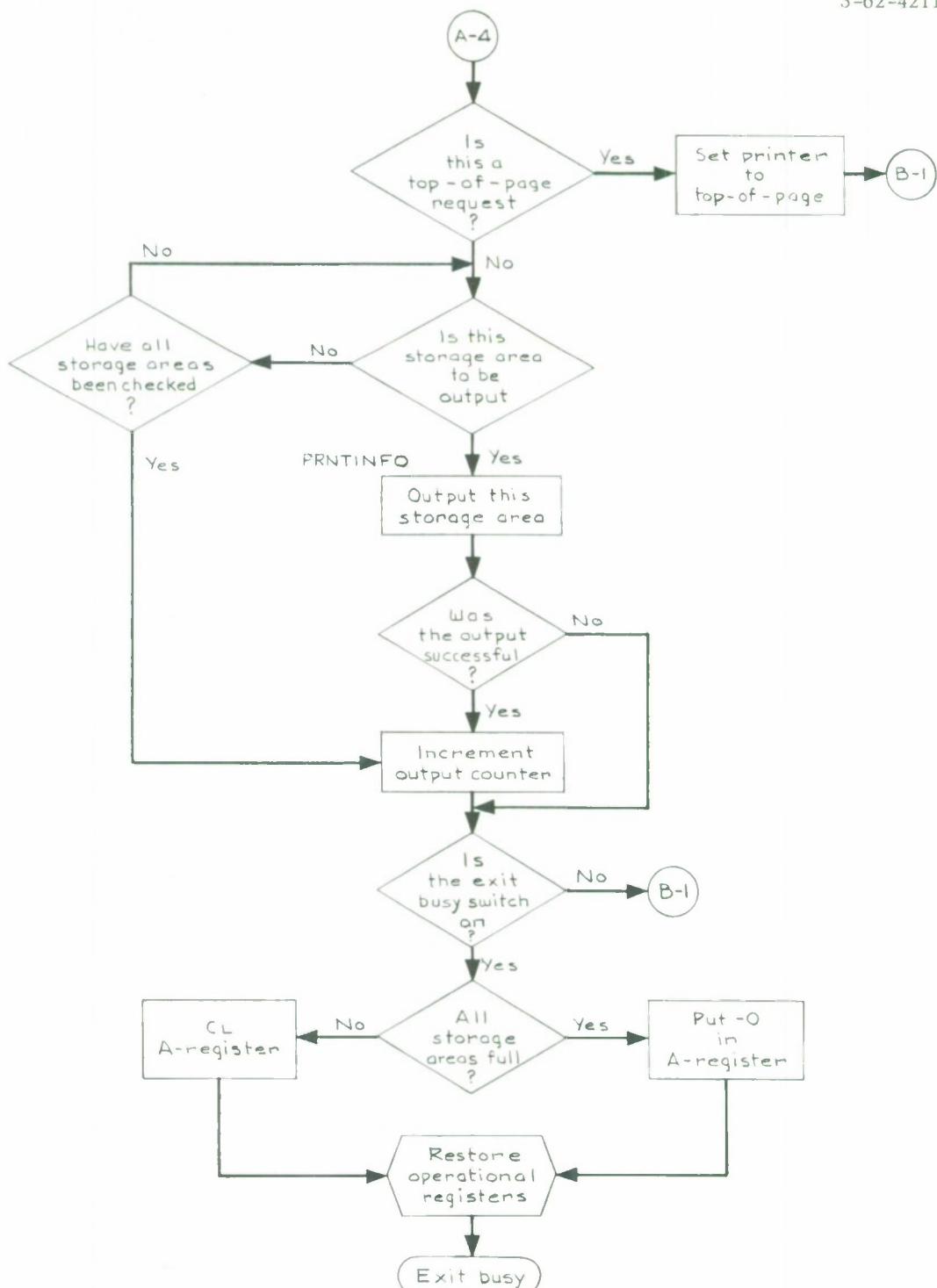
Control is returned here if the data was successfully transferred and has been output or is waiting to be output.

3-62-4214

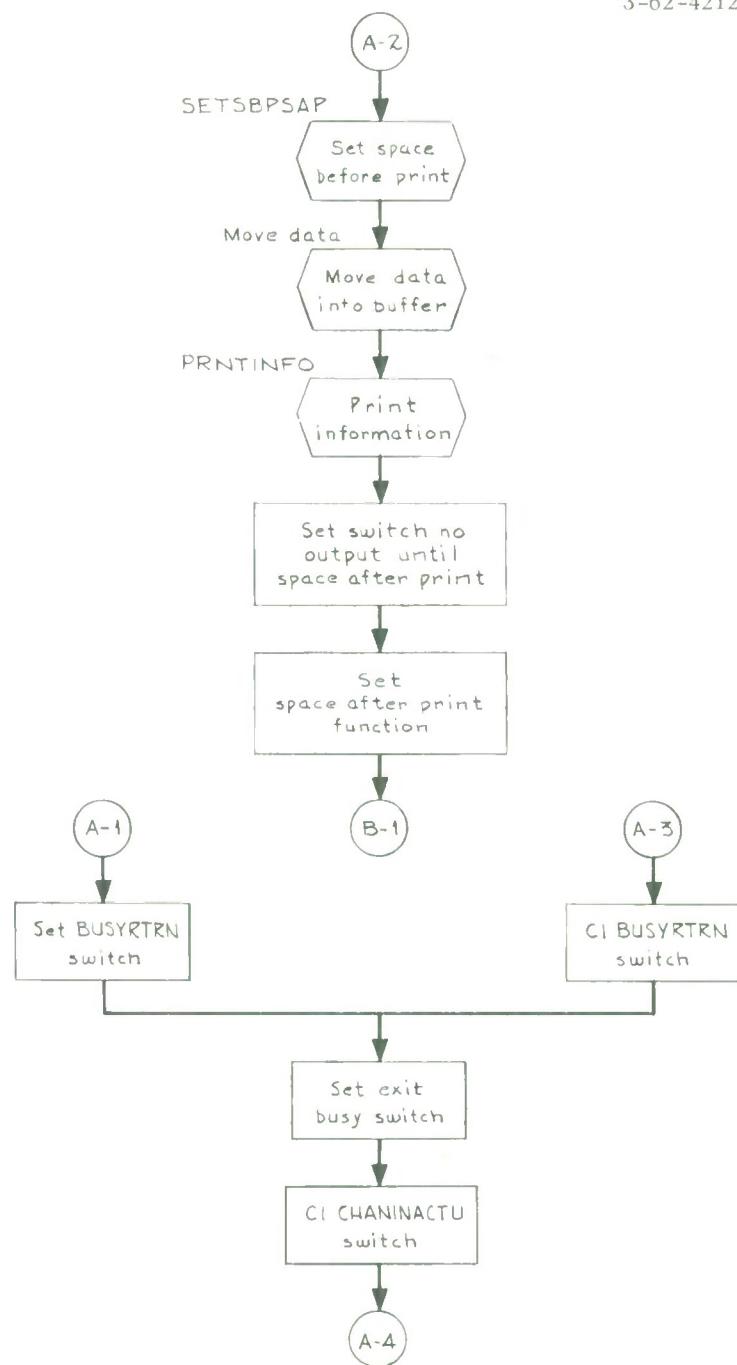


#### PRLOG PROGRAM INITIALIZATION SECTION

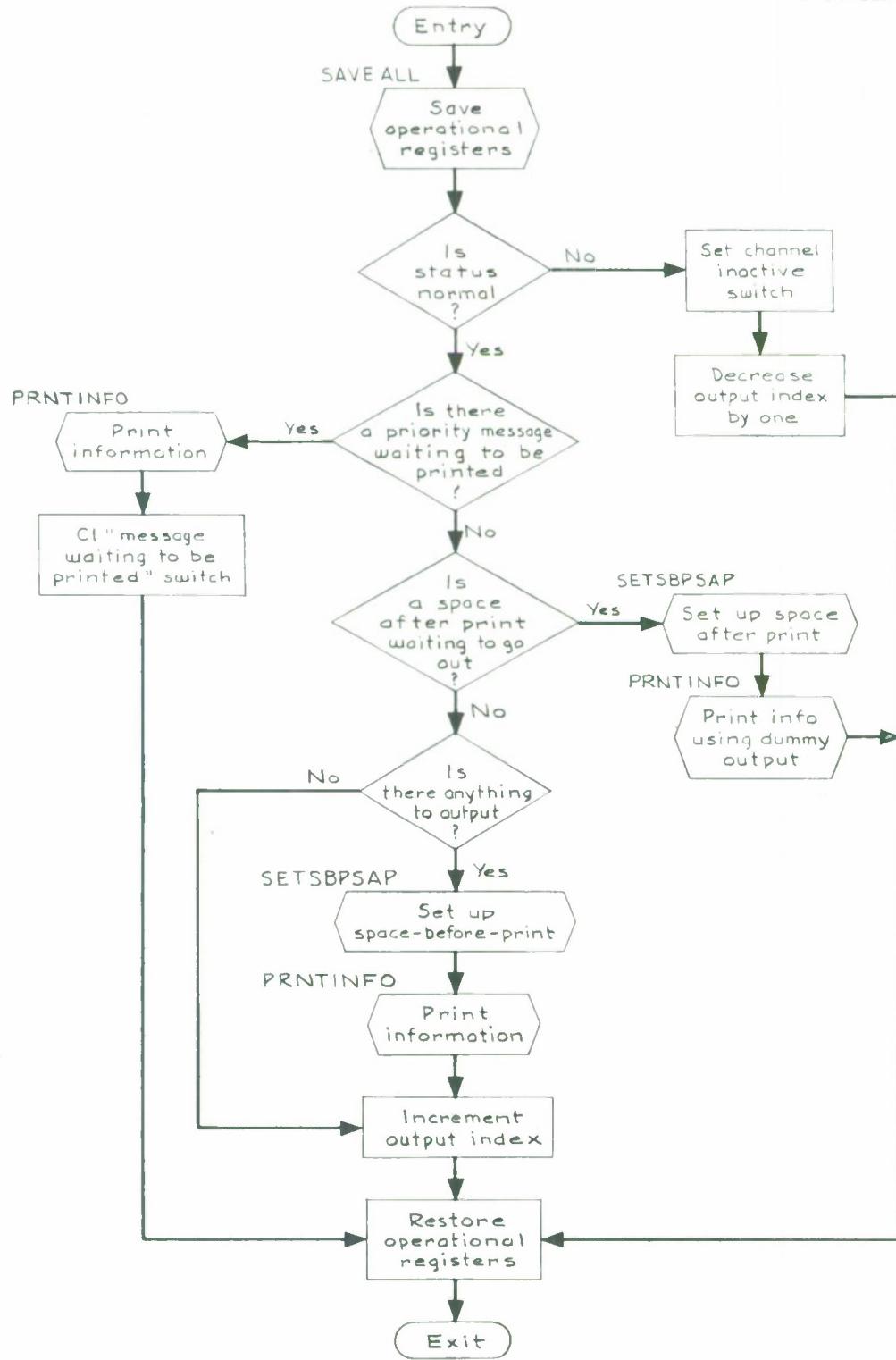




PRLOG PROGRAM WORKING SECTION (con't)



PRLOG PROGRAM WORKING SECTION (con't)



PRLOG PROGRAM INTERRUPT SECTION

## RECORDING

### INTRODUCTION

The Recording Program of the Haystack Antenna Pointing System records data on magnetic tape in binary, high density. These data are provided by the user programs in the form of initial and terminal addresses of blocks to be recorded. The Recording Program does no interpretation of data. Rather it is a central facility for handling recording as requested by a number of user programs. In doing this, it provides for the handling of tape status codes of various kinds, such as parity and end of tape, and for the proper heading of an experiment.

### BUFFER CONTROL WORD SET UP

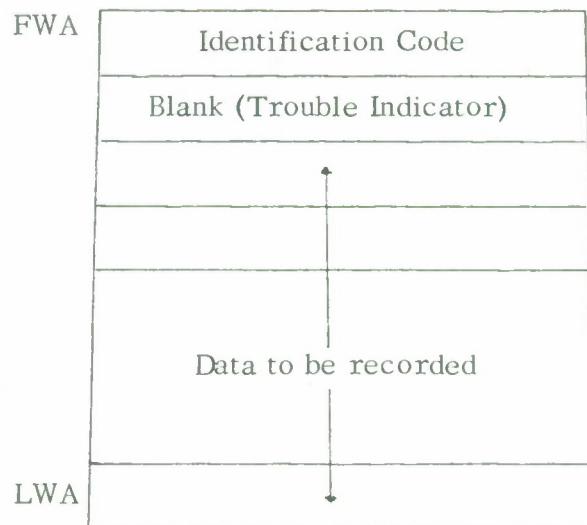
A block of 50 registers in Common Storage (C/S) starting at RECFILE is set aside for the user programs to set up recording requests. A user program is assigned one or more register numbers in that block. Let  $n$  be one such register. When the user program wishes to record a block of data starting at say FWA and ending at LWA, the user program sets up RECFILE +  $n$  to the proper buffer control word.



When the Recording Program is in the process of writing the block specified in RECFILE +  $n$ , it issues an OUT command with this word as the buffer control word (BCW). RECFILE +  $n$  is set to -0 at this time. When the block has been completely written RECFILE +  $n$  is set to +0. A user program may, therefore, set up the appropriate RECFILE register whenever it contains +0. It may also change that RECFILE register whenever it does not contain +0 taking note of the fact that the recording program may interrupt and begin output of the data specified by that register. Thus, a user program which changes RECFILE must provide suitable interrupt lockout while inspecting and changing the RECFILE register.

## FORMAT OF BLOCKS TO BE RECORDED

The block to be recorded starting at FWA and ending at LWA must be of the following form:



The Identification Code is assigned to each program arbitrarily. It usually would be the 5 character Fielddata System Name of the program. The Trouble Indicator is a blank register used by the recording program to indicate that some sort of trouble was encountered in writing the previous record. The data to be recorded occupy the remaining registers of the block.

## OPERATION

### A. Initialization

When recording is initialized, C/S KYBRDLEVEL is first examined to ascertain whether or not the teleprinter may be used during the sequence. If use of this device is denied, Recording simply indicates that a new heading record is in order and normally exists without further ado.

If the teleprinter is available, Recording will ask the user (via Intercom) how much system data recording is desired. If the user elects "complete recording" the entire contents of common storage including all values that are computed directly as well as all incoming data and outgoing interpolated data will be recorded (currently

$6000_8$  words). On the other hand, a request for a "partial recording" will result in the recording of only the directly computed values (currently recorded in this mode are  $151_8$  words). As a third choice, the user may elect no system data recording. The user's decision is communicated via C/S RECORDSWITCH to the control program, MCP, which sets up the appropriate buffer control word in the RECFILE block. Irrespective of the amount of system recording desired, the working section of Recording is entered once each frame, since programs other than MCP are free to exercise the recording option.

If the amount of data recording requested was "none" and if the system is cycling (reinitialization) the program exits. If, however, the amount of data recording requested was "complete" or "partial", an indication is made that a new heading record is required and then if the program is being reinitialized, an exit is made.

If the system is not cycling, an initialization is assumed and Recording sets all its indicators and switches to normal.

#### B. Finalization

When the Recording program is entered in the initialization section with the A register set to non zero, Recording waits for any output-to-tape in progress to finish and then writes an end-of-file on the tape and rewinds it with interlock. An indication that this finalization procedure has been carried out is made in C/S SYSTATD.

#### C. Working Section

Each frame the control program enters the working section of the Recording Program to initiate recording for that frame. Successive records are written by the interrupt answering routine of the Recording Program until RECFILE has been exhausted.

A heading record is written as the first record of a tape, and the first record of a new experiment. If an experiment takes more than one tape, the tape number is indexed in the heading.

Data records are recorded from locations specified by the buffer control words in RECFILE. If an abnormal condition occurs in writing a record (the most common being a parity), the record is not rewritten. Rather an indication of such a trouble (-0) is written in the second word of the next record to be written. If the record is written normally, the second word of the next record is set to +0.

If a buffer control word brings the number of words to be recorded in a frame past a set limit\*, this fact will be logged on the high-speed printer, and this word in RECFILE will be cleared, and no recording will take place of this data block.

If an end-of-tape is reached, the unit is rewound with interlock, the tape number is indexed, and a heading record is written on the next tape unit which is set up for recording. †

If a tape unit is interlocked, and noted in C/S INTERLCKSW, this fact is logged on the high-speed printer. When the unit is readied, the first record written will be the heading record.

If a unit is rewinding, another attempt at writing a heading record is made.

## COMMON STORAGE REGISTERS SET

### Common Storage Registers Set

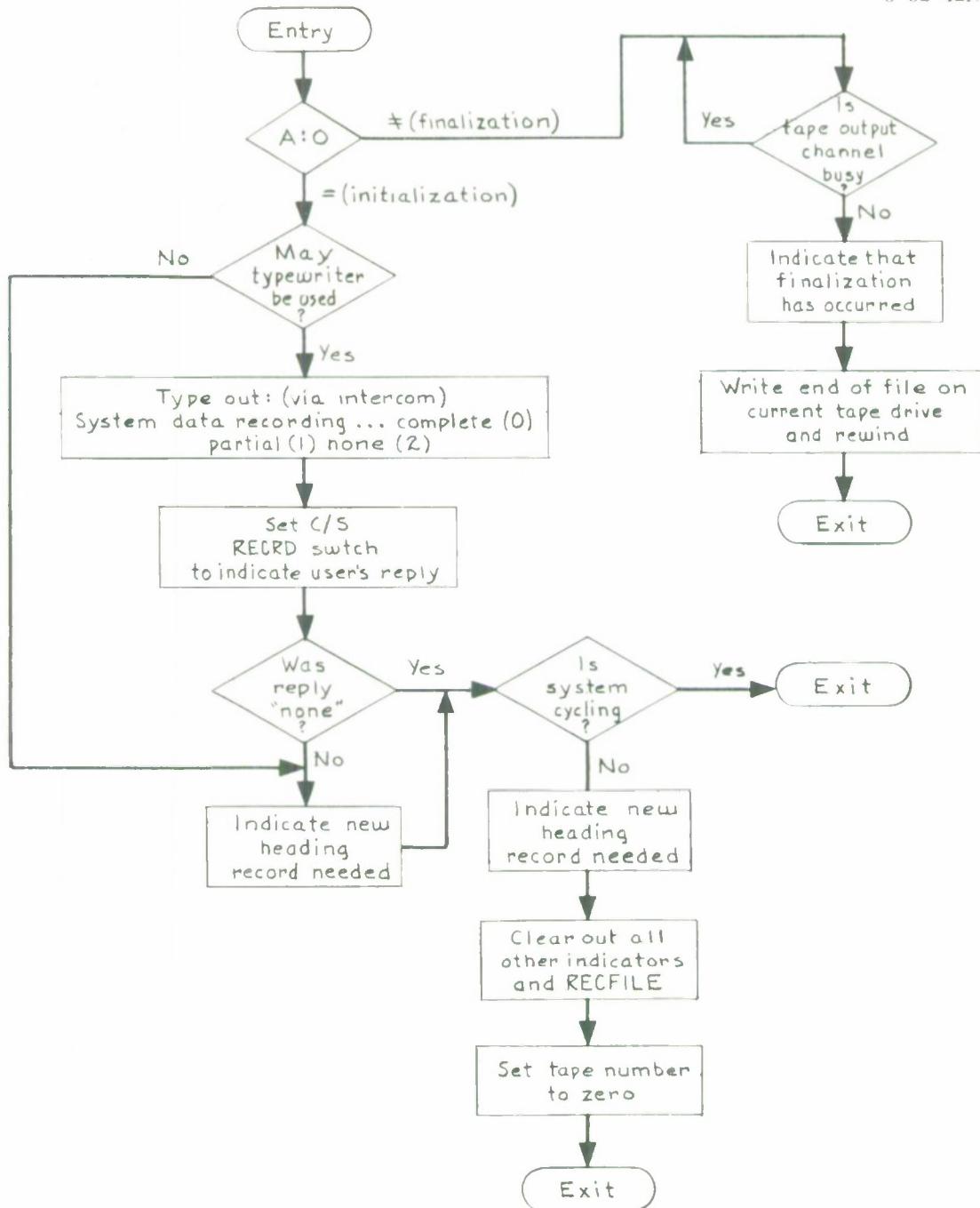
L(RECRDSWTCH)	to 0, 1 or 2 for complete, partial or no recording respectively
U(INTERLCKSW)	to +0 → interlock on magnetic tape; +Ø → no interlock
W(RELEASESW)	to +0 → recording finished; -0 → recording not finished
W(SYSTATD)	to +0 finalization not done -0 → finalization done
W(RECFILE) (50 registers)	to +0 recording of this data done -Ø recording of this data is in progress

### Common Storage Registers Read

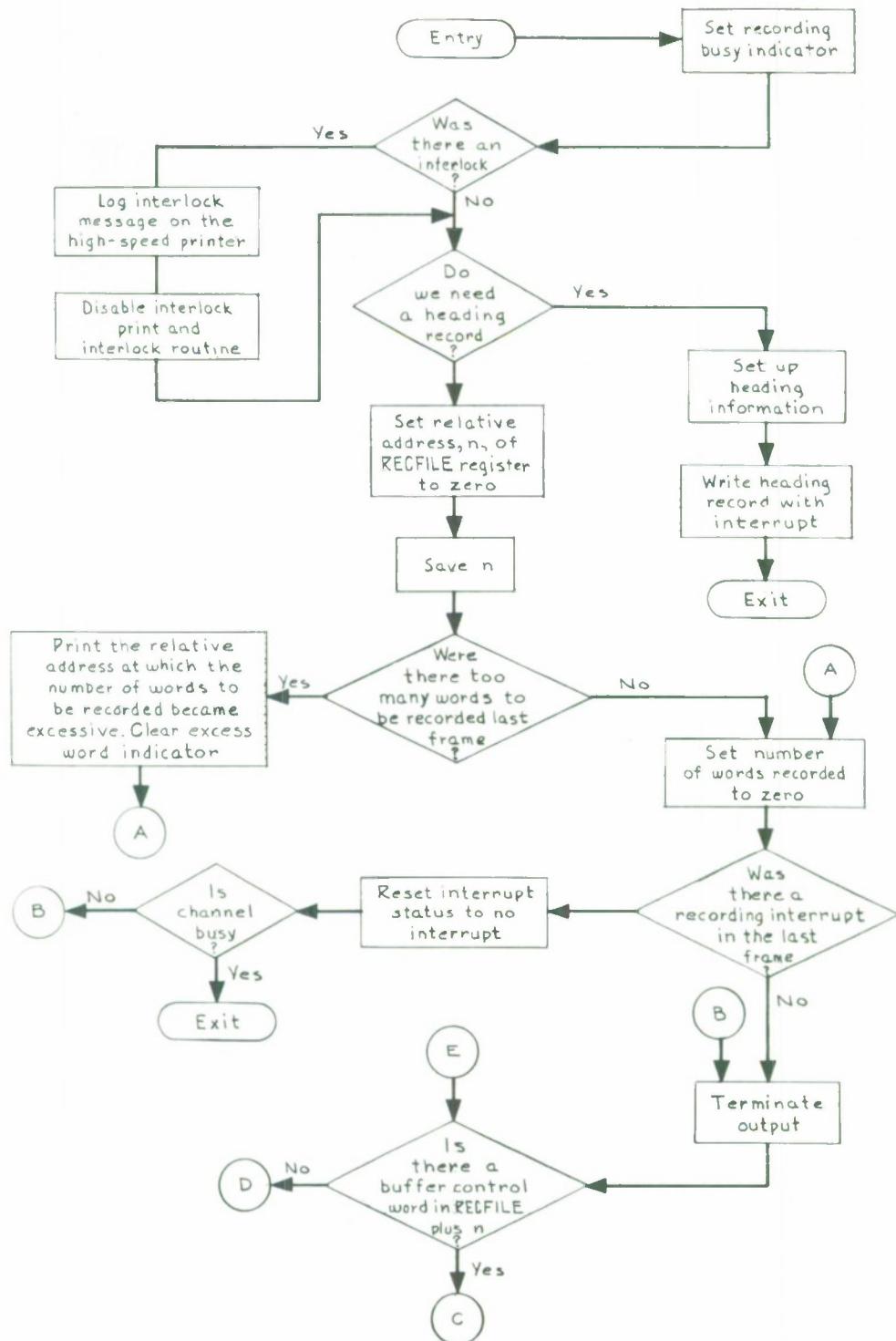
W(KYBRDLEVEL)
W(EXPNAME) (16 registers)
W(YEARMONTH)
W(DAY)
W(CELBODY) (3 registers)
W(SYSTAT 2)
L(SYSTAT 1)

\*This limit is now set at 10000<sub>d</sub> words.

†Recording begins on servo 2, switches to servo 3 then back to servo 2 etc. indefinitely as required.

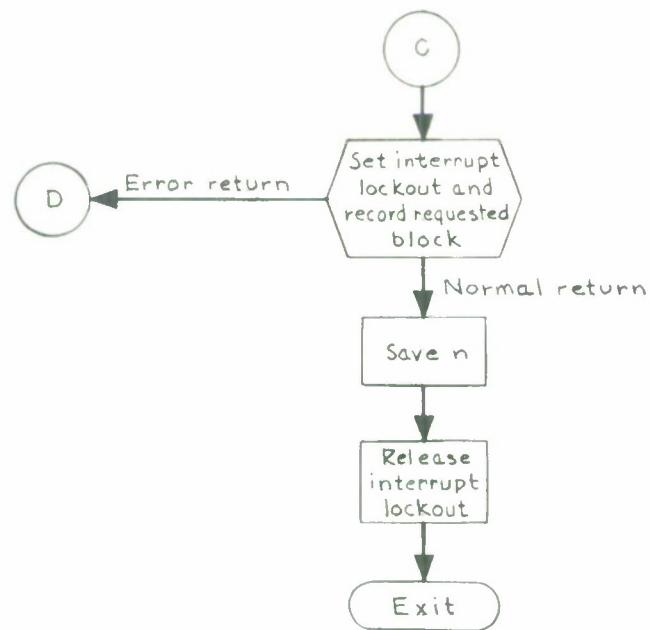
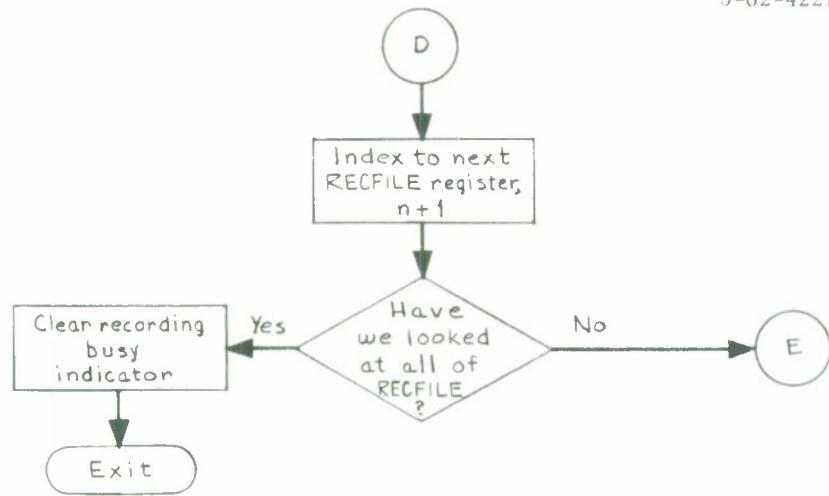


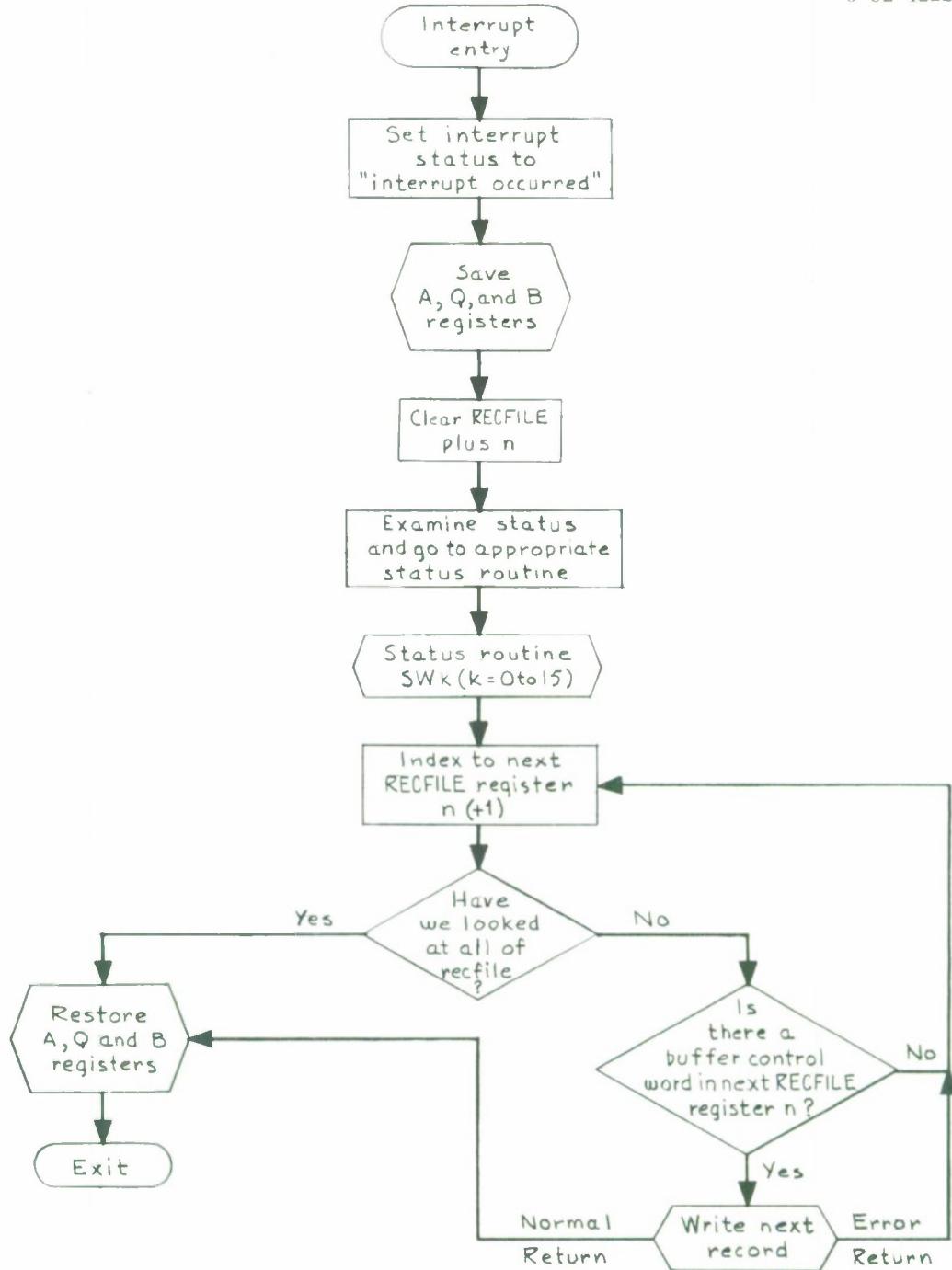
## RECORDING PROGRAM INITIALIZATION AND FINALIZATION SECTIONS

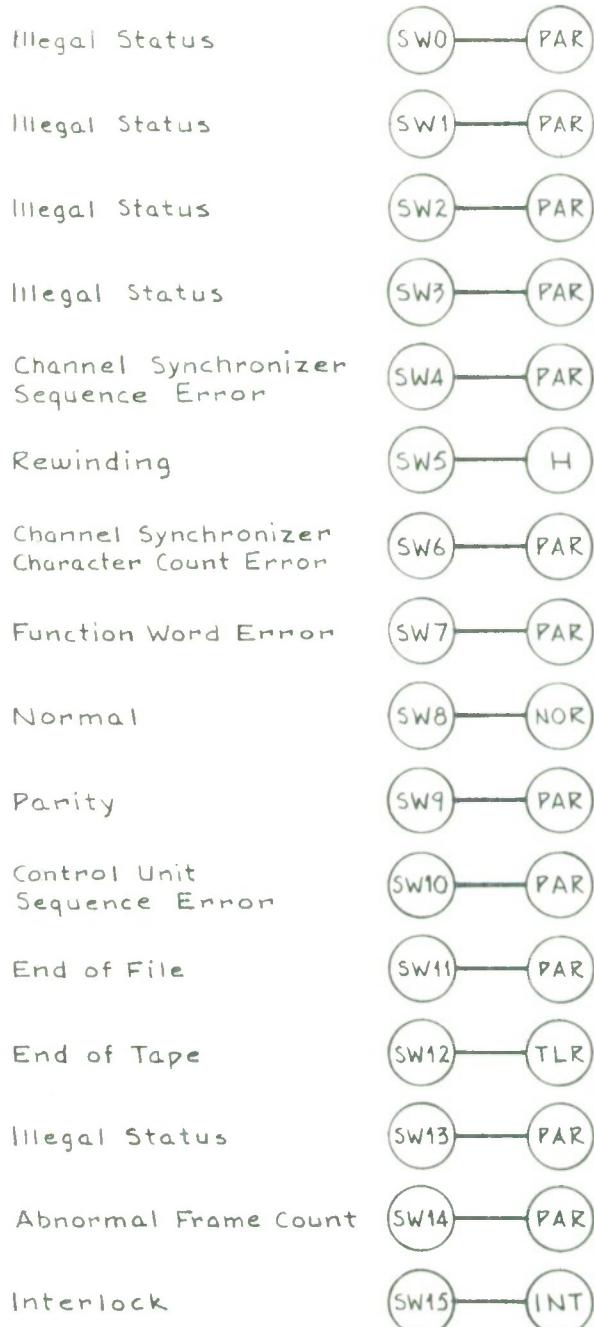


RECORDING PROGRAM : WORKING SECTION

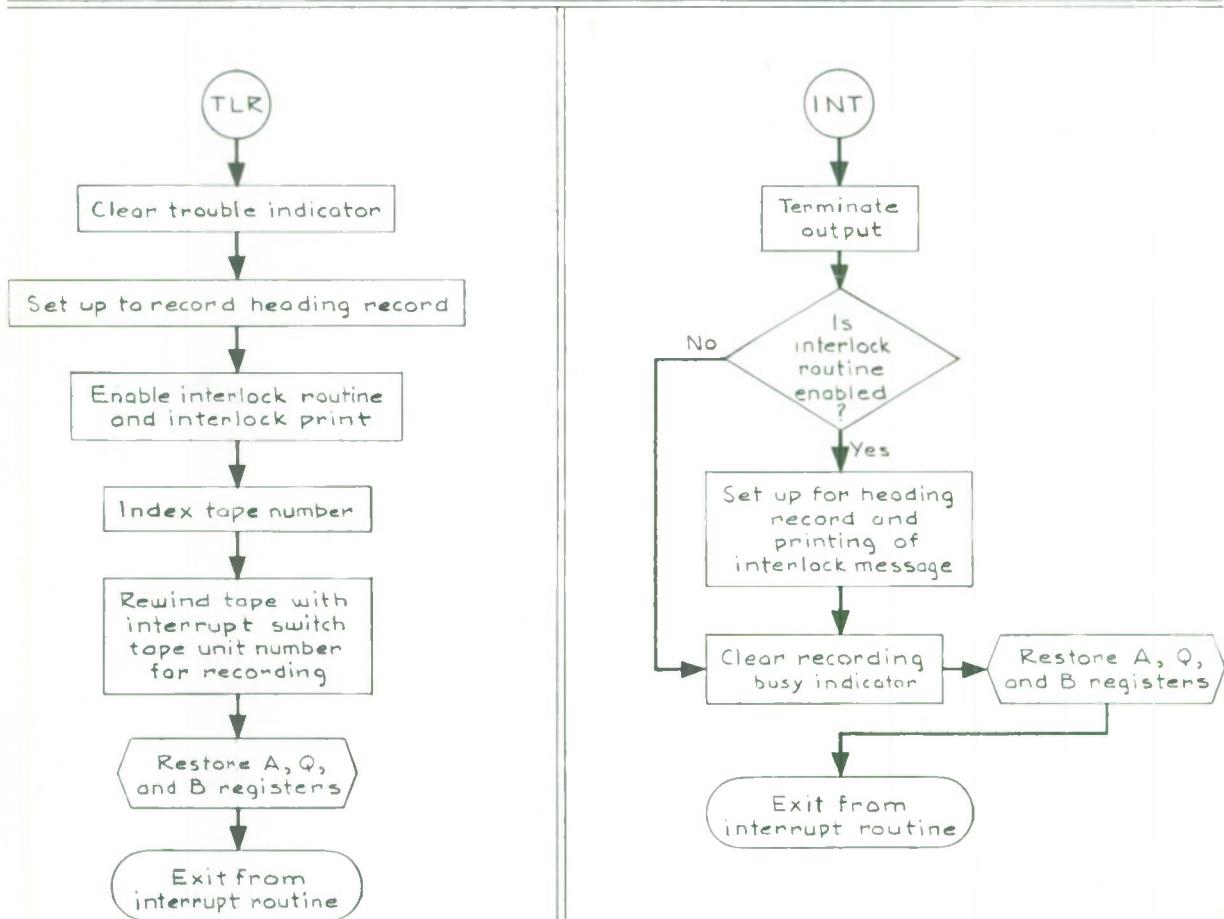
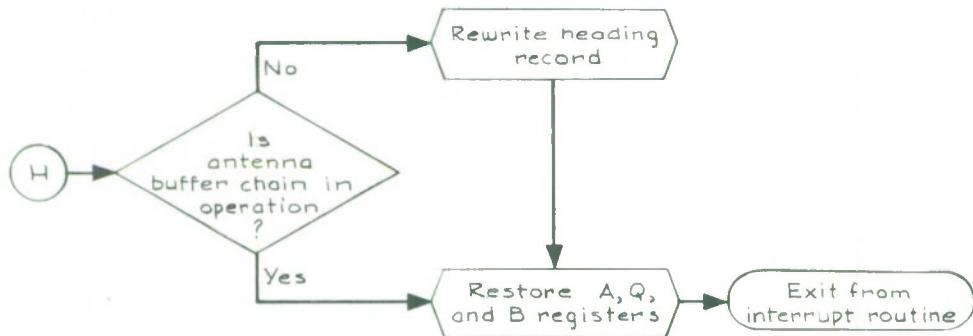
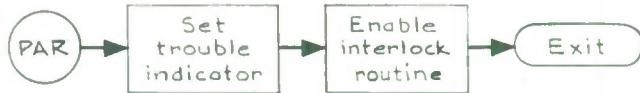
3-62-4221

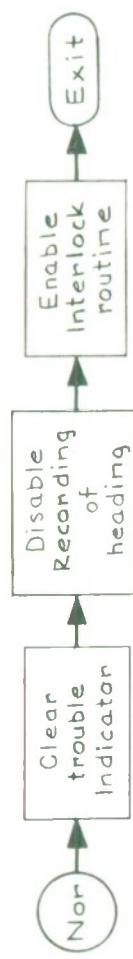




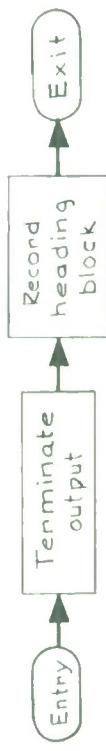


## STATUS SWITCHES

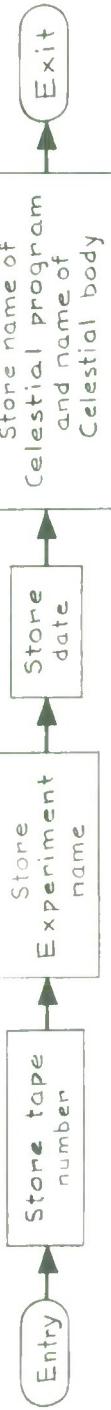


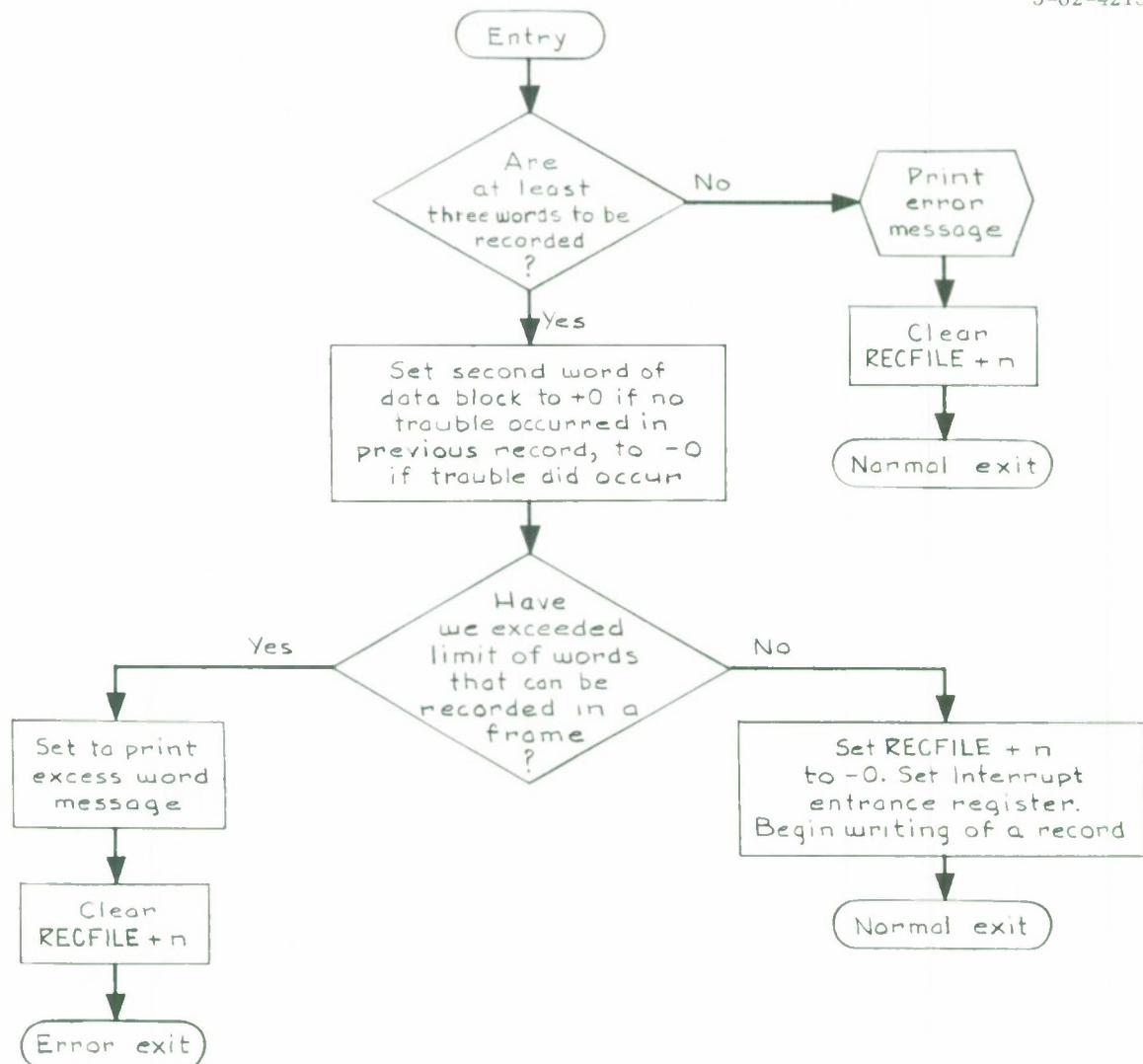


## Set Up of Heading Block



## Heading Block Recording





WRITE

## WFORD/MSTONE INTERSITE COUPLING

### INTRODUCTION

As the Haystack Pointing System (HPS) cycles, pointing information in the form of azimuth, elevation, range, and doppler data is automatically output to the equipment interfacing both the West Ford\* site and the Millstone<sup>†</sup> site.

Because historically the West Ford site was first to be coupled to Haystack, the program in the system which prepares these data for output is known as the West Ford program (WFORD).

This program, then, services the system intersite coupling requirements connected with going from Haystack to the two remote sites. Purely as a matter of convenience for the present, WFORD also initiates input from the Millstone site, but in fact does nothing with these incoming data.

### INPUT

WFORD uses information in Common Storage (C/S) Registers FREQUENCY, WFFREQ, MSFREQ, WFADD, MILLSTNADD, AZIMADD, ELEVADD, DOPPADD and RANGEADD as well as the actual Haystack interpolated values of azimuth, elevation, and doppler, and the mid-interval value for range.

### OUTPUT

Every system frame WFORD prepares a buffer table of values of azimuth, elevation, range, and doppler for each site; Fig. 1 shows the word format for West Ford; Fig. 2 for Millstone. Each datum is separated from the next by 50 ms in time. Each of the two buffer tables for each site contains data for a two-second interval (the HPS cycle rate). Hence each West Ford buffer requires 120 words of storage while 160 words are needed by each Millstone buffer. The WFORD

\* Haystack-West Ford Intersite Coupling Link, Group Report 1964-25 dated 14 May 1964 by J. E. Gillis, DDC 601143, H-585.

† Haystack-Millstone Intersite Coupling System, 18 May 1964 (private communication).

program prepares the data for output, but the actual OUT (using an externally specified index) is issued by the control program at the time that the Haystack interface signals that it needs more data.

## INITIALIZATION

The doppler frequency to be output to each of the two sites must be in the ratio of the site frequency to the Haystack frequency. Additionally the West Ford doppler must be in units of kilocycles as opposed to cycles for Millstone and Haystack. The initialization section computes these ratios and saves them as multiplicative factors to be used by the working section of WFORD to modify the doppler computed for Haystack. The initialization section presently issues the original IN command to the Millstone input interface equipment. Subsequent IN's are issued by the WFORD interrupt section.

## OPERATION

In the operation section of WFORD, the azimuth, elevation, range, and doppler data prepared for output to the Haystack system for the next frame are suitably manipulated and adjusted to conform to each site's word format and data rate.

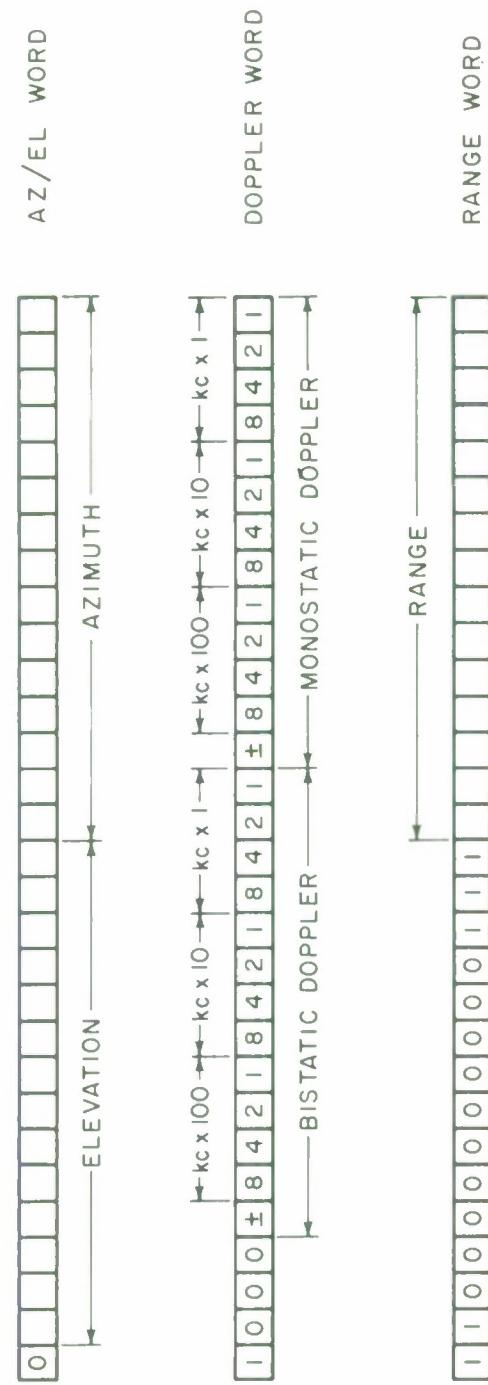
In the case of azimuth and elevation every  $12.5^{\text{th}}$  ( $12.5 \times 4 \text{ ms} = 50 \text{ ms}$ ) Haystack datum is used with the least significant bit being made  $360^{\circ}/2^{15}$  rounded ( $\sim .011^{\circ}$ ) rather than  $360^{\circ}/2^{19}$

In the case of doppler, the value valid for Haystack at the mid-point of the interval is used. First the +750 kc Haystack bias is removed and the resultant frequency is multiplied by the appropriate pre-computed ratio to yield doppler in cycles per second for Millstone and kilocycles per second for West Ford. This quantity is now converted to quasi-BCD and is used as the doppler for the entire two-second interval. For West Ford this value is output as both monostatic and bistatic doppler.

For range, the value computed for Haystack at the mid-point of the interval is converted to nautical miles (binary) for West Ford and to units of 1 microsecond (BCD) for Millstone. The single value is used over the entire two-second interval.

3-62-2777

MSB      00000000000000000000000000000000 ← 400-BIT NUMBER



DATA SET: HAYSTACK TO WESTFORD  
U490 COMPUTER WORD FORMAT

Fig. 1. Data set; Haystack to Westford U490 computer word format.

Data Set: Haystack to Millstone  
U490 Computer Word

Bit No.	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
Word No. 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
																															$2^{14}$	$2^0$
2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$2^{14}$	$2^0$
3	1	0	0	0	0	0	$2^3$				$2^0$	$2^3$			$2^0$	$2^3$			$2^0$	$2^3$			$2^0$	$2^3$	$2^0$	$2^3 * 2^0$						
4	1	1	0	0	0	0	$\underline{+2^2}$			$2^0$	$2^3$			$2^0$	$2^3$			$2^0$	$2^3$			$2^0$	$2^3$	$2^0$	$2^3 * 2^0$							

\*Least Significant Digit (LSD)

#### A. Haystack to Millstone

The data to be sent from Haystack to Millstone will be at a 3-kc rate and in the form of a set of four 30-bit words containing information as follows:

Word 1: Azimuth; 15 bits, LSB =  $360^\circ / 2^{15}$

Word 2: Elevation; 15 bits, LSB =  $360^\circ / 2^{15}$

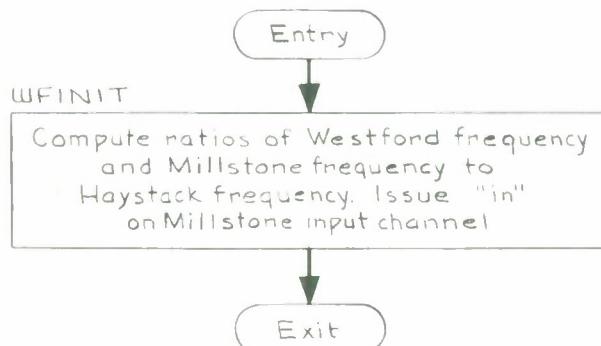
Word 3: Range; 6 BCD characters, LSD = 1  $\mu$ sec.

Word 4: Doppler; 6 BCD characters, LSD = 1 cps

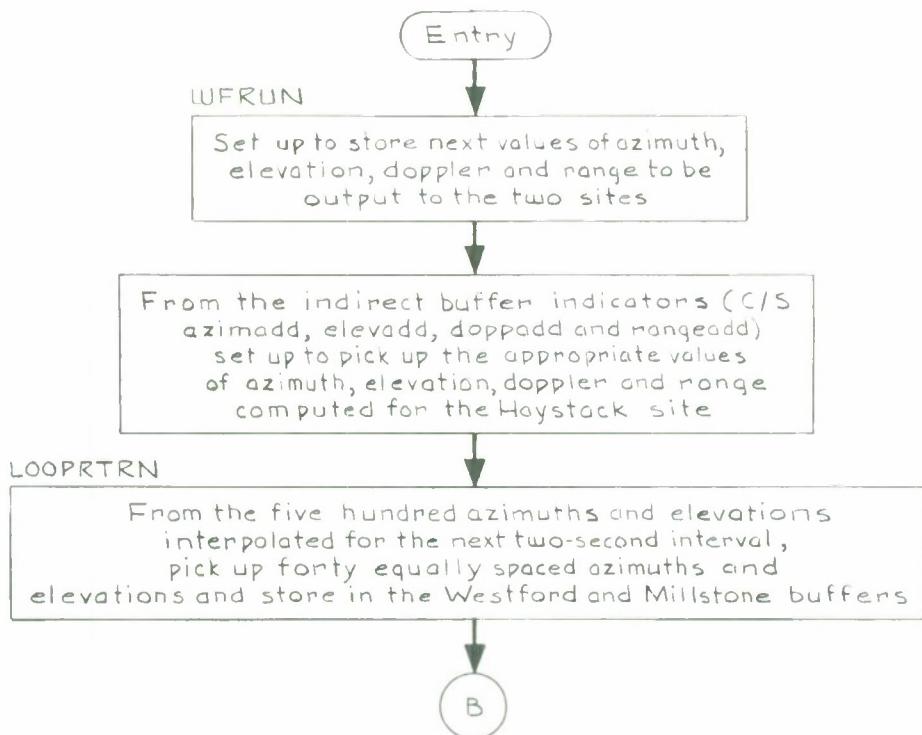
The data set will be transmitted 20 times per second.

Fig. 2

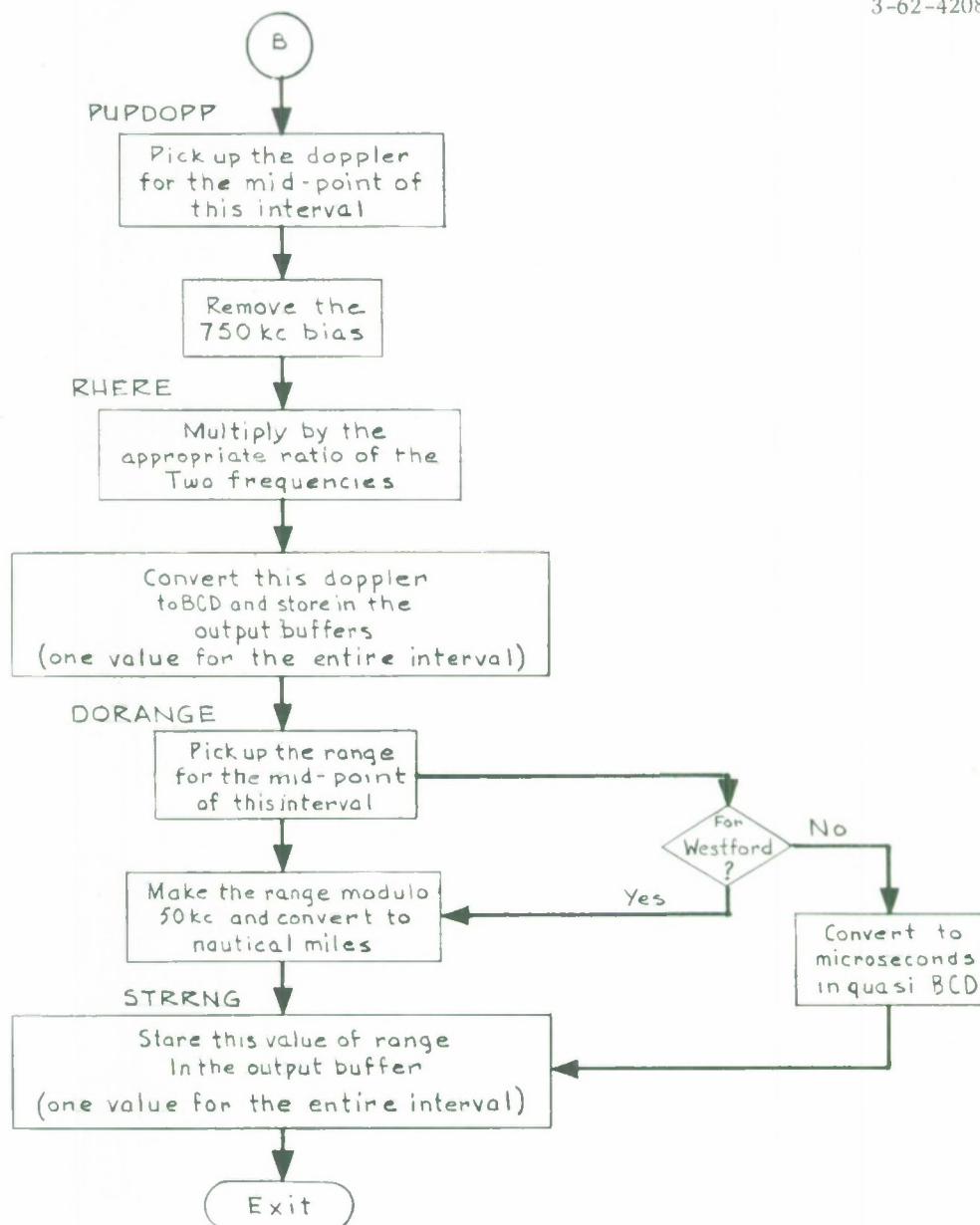
## Initialization Section



## Working Section



INTERSITE COUPLING PROGRAM: FLOW CHART



CAROS	L10 LABEL	TA STATEMENT	SPURT OUTPUT NO. 210		SPURT OUTPUT NO. 210		NOTES
			LOC	F	JKB	Y	
	00000	CHANGECORE	S.J.WHITE•MAR.25*64				
	00001	CHANGECORE	U-TAG CHANCORE•CHANCORE	00000	00002	00002	
	00002		FO 1•CHGOR	00001	10151	02427	
	00003	CHANCORE	ENTRY	00002	61000	00000	
	00004	BEGIN	CL W•WHISCONT)	00003	16030	00103	
	00005		PUT -0•W(LOCNUM)	00004	10040	77777	
	00006		RJP U•INTERCOM)	00005	14030	00102	
	00007		U-TAG ASK•ADDRESS	00006	65020	63426	
	00010		ENT A•U(LOCNUM)•AZERO	00007	00055	00057	
	00011		EXIT	00010	11420	00102	
	00012		RJP U•INTERCOM)	00011	61010	00002	
	00013		O CONTENTS	00012	65020	63426	
	00014		ENT Q•L(LOCNUM)	00013	00000	00056	
	00015		STR Q•L(AHEAD0)	00014	10010	00102	
	00016		STR Q•U(AHEAD01)	00015	14010	00022	
	00017		STR Q•L(AHEAD02)	00016	14010	00025	
	00020		RJP CONVQ	00017	14010	00037	
	00021		STR A•W(MESS2)	00020	65000	00043	
	00022	AHEAD0	ENT Q•U(0)	00021	15030	00372	
	00023		RJP CONVQ	00022	10020	00000	
	00024		STR A•W(PLUS11)	00023	65000	00043	
	00025	AHEAD01	ENT Q•L(0)	00024	15030	00074	
	00026		RJP CONVQ	00025	10010	00000	
	00027		STR A•W(PLUS1+1)	00026	65000	00043	
	00030		ENT Q•U(WHISCONT)	00027	15030	00075	
	00031		RJP CONVQ	00030	10020	00103	
	00032		STR A•W(PLUS2)	00031	65000	00043	
	00033		ENT Q•L(WHISCONT)	00032	15030	00077	
	00034		RJP CONVQ	00033	65000	00043	
	00035		STR A•W(PLUS2+1)	00034	15030	00103	
	00036		ENT A•W(WHISCONT)	00035	15030	00100	
	00037	AHEAD02	STR A•W(0)	00036	11030	00103	
	00040		RJP U•INTERCOM)	00037	15030	00000	
	00041		U-TAG KOUTCONT•0	00040	65020	63426	
	00042		JP BEGIN	00041	00070	00000	
	00043	CONVQ	ENTRY	00042	61000	00003	
	00044		CL A•	00043	61000	00000	
	00045		CL B4•	00044	11000	00000	
	00046		LSH Q•150	00045	12400	00000	
	00047	LOOP	LSH A•3	00046	05000	00017	
	00050		LSH AQ•3	00047	06000	00003	
	00051		A00 A•60	00050	07000	00003	
	00052		BSK B4•4	00051	20000	00060	
	00053		JP LOOP	00052	61000	00047	
	00054		EXIT	00053	61010	00043	
	00055	ASK	FO O•A	00054	60050	50505	
	00056		~O MESS1	00055	77777	00063	
	00057	ADDRESS	FO O•0	00056	24050	50505	
	00060		11 LOCNUM	00057	00011	00102	
	00061		O O	00060	00000	00000	
	00062		O -O	00061	00000	77777	
	00063	MESS1	FO O•E.L.+C.	00062	12752	17542	

SPURT OUTPUT NO. 210  
S. J. WHITE • MAR. 25•64

CAROS	LI TO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	CC064	-0	00064	10750	50505		
*	CC065 CONTENTS	-0 F0 0*0	00065	77777	77777		
*	00066	01 WHISCONT	00066	24050	50505		
*	00067 KOUTCONT	F0 0*A	00067	00001	00103		
*	00070	-0 MESS2	00070	06050	50505		
*	00071 MESS2	F0 1*	00071	77777	00072		
*	00072	F0 1*	00072	05050	50505		
*	00073 PLUS1	F0 2*	00073	05050	50505		
*	00074	F0 1*	00074	05050	50505		
*	00075 PLUS2	F0 2*	00075	05050	50505		
*	CC076	-0 -0	00076	05050	50505		
*	CC077 LOCNUM	0 0	00077	05050	50505		
*	00100 WHISCONT	0 0	00100	05050	50505		
*	00101 RESERVE	1	00101	77777	77777		

END OF LISTING

SPURT OUTPUT NO. 211

S. J. WHITE • MAR. 25•64

CHANGE CORE	LOC	LABEL	LOC	LABEL	LOC	LABEL
ACQAZIM	63071	ACQELEV	63075	ACQUI	63427	
ACTUALTIME	63142	ADDRESS	00057	AOSCN	63416	
AESCN	63417	AHEAO	00022	AHEAO1	00025	
AHEAO2	00037	ALNGOFFSET	63517	ARCOFAZIM	63524	
ARCOFOEC	63526	ARCOFELEV	63522	ARCOFRA	63530	
ASK	00055	ASTROFC	63106	ASTRORA	63105	
AUPEREQUAT	63341	AZELOTIME	63532	AZELXSCAN	63500	
AZIM	63053	AZIMOFFSET	63512	AZIMOUT	64000	
AZIMOVER	63325	AZIMAO	63442	AZIMIN	75000	
AZMTHSCAN	63501	BOOYSIZE	63462	BEGIN	00003	
BLASTOFF	63146	COCON	63414	CONTENTS	00066	
CONVERTIME	63135	CONVQ	00043	CDRCT	63420	
COSORTIENT	63065	COSAZEL	63070	CAZIM	63060	
CELBOY	63113	CELCORPGM	63424	CELEV	63061	
CELTIME	63133	CHANCORE	00002	CHANGE CORE	00000	
CHCOR	63422	CHPAR	63431	CHANGE	63057	
CROSSOFFSET	63516	OPPOUT	66000	OPPA00	63444	
DATANALYZE	63425	OAY	63150	OEC	63003	
DECOFFSET	63515	ODECOTT	63010	OECLINSCAN	63505	
DELTATEE	63316	OSECOMOS	63141	OMSECTTG	63154	
OYDMP	63421	ELEV	63054	ELEVOFFSET	63513	
ELEVOUT	65000	ELEVAD0	63443	ELEVIN	76000	
ELVNSCAN	63502	EQUATOR	63323	ESTSHIFTED	63143	
EXPNAME	63350	FIRSTLEV	63104	FIRSTTHR	63153	
FLATTENING	63337	FRAMESIZE	63101	FREQUENCY	63317	
GEOCENTLAT	63322	GEODEELAT	63321	GMTMOOU24	63145	
GMTSHIFTED0	63144	HOLDNTHON	63511	HOURHNTUE	63137	
HOURREG	63151	HEIGHT	63326	1010RA010	66777	
1011RA010	67776	1012RA010	67777	1013RA010	70775	
1014RA010	70776	1015RA010	71776	1016RA010	71777	
1017RA010	72776	1018RA010	72777	1019RA010	73776	
101CELCOR	63000	101ENPNT	63410	101RA0COR	63050	
101RA010	63440	101RRC0	63210	101SYSENT	77576	
101SYSNAM	77676	101SYSPAR	63310	101TIME	63130	
1020RA010	73777	1021RA010	74776	1022RA010	74777	
1023RA010	75776	1024RA010	75777	1025RA010	76775	
1026RA010	76776	102CELCOR	63001	102ENTPNT	63411	
102RA0COR	63051	102RA010	63441	102RECR0	63211	
102SYSENT	77577	102SYNAM	77677	102SYSPAR	63311	
102TIME	63131	103RA010	63776	104RA010	63777	
105RA010	64776	106RA010	64777	107RA010	65776	
10BRA010	65777	109RA010	66776	INAZIMA00	63446	
1NELEVA00	63447	INTER	63413	INTERA1M	72000	
INTERCOM	63426	INTERDOPP	74000	INTERELV	73000	
INTERLCKSW	63460	INTERANGE	76777	KOUTCONT	00070	
KPERNM	63342	KYBROLEVEL	63110	LOOP	00047	
LOCNUM	00102	LONGITUDE	63320	LSPERAU	63336	
MAINSWITCH	63334	MCPFLILLER	71000	MCPGM	63412	
MESS1	00063	MESS2	00072	MILLSTNAOO	63451	
MINREG	63152	MSFREQ	63332	NMPERAU	63340	
POLE	63324	PERIODAZIM	63525	PERIOODEC		

SPURT OUTPUT NO. 211		S. J. WHITE • MAR. 25•64	
CHANGE CORE			
LABEL	LOC	LABEL	LOC
PERIOELEV	63521	PERIORA	63527
PLANP	63434	PLUS1	63074
PREVIOUSM	63461	PRLOG	63423
ROTATERADN	63506	ROTATERBX	63510
RAOFFSET	63514	RAOOT	63007
RAOCBXSCAN	63503	RAOECDTIME	63531
RAOTOMETER	63102	RAOIORA	63540
RAOISOOT	63011	RANGE	63052
RANGEA00	63445	RANGEOOT	63062
ROMTR	63430	ROXXX	63433
RECAZIM	67000	RECELEV	70000
RECRO	63415	RECROSWATCH	63155
SAZIM	63055	SCETIME	63134
SECONDS	63140	SELEV	63056
SINORIENT	63064	SINAZEL	63066
SRA	63004	SRAOTIME	63136
SYSCOMREG1	63452	SYSCOMREG2	63453
SYSCOMREG4	63455	SYSCOMREG5	63456
SYSENTRIES	77600	SYSNAMES	77700
SYSTAT2	63314	SYSTAT0	63315
TIMEMOOE	63103	TIMEP	63435
TRUE RANGE	63063	TRUE TIME	63132
THOSECOOP	63017	VELOFLIGHT	63335
VIZOEC2	63016	VIZRA1	63013
WFORO	63432	WF400	63450
WHISCONT	00103	YEARMONTH	63147
ZRTRAN	633330	YRTRAN	63327

END OF LISTING

SPURT OUTPUT NO. 212

## CHANGECORE

LABEL	LOC	LABEL	LOC	LABEL	LOC
CHANGECORE	00000	CHANCORE	00002	BEGIN	00003
AHEAD	00022	AHEAO1	00025	AHEAD2	00037
CONVQ	00043	LOOP	00047	ASK	00055
ADDRESS	00057	MESS1	00063	CONTENTS	00066
KOUTCONT	00070	MESS2	00072	PLUS1	00074
PLUS2	00077	LOCNUM	00102	WHISCONT	00103
TO1CELCOR	63000	ID2CELCOR	63001	RA	63002
DEC	63003	SRA	63004	SOEC	63005
RAOIJUS	63006	RADOT	63007	OEDDOT	63010
RAOIJUSDOT	63011	SIOERTIME	63012	VIZRA1	63013
VIZOEC1	63014	VIZRA2	63015	VIZOEC2	63016
TWOSCOOP	63017	IO1RADCOR	63050	IO2RADCOR	63051
RANGE	63052	AZIM	63053	ELEV	63054
SAZIM	63055	SELEV	63056	CRANGE	63057
CAZIM	63060	CELEV	63061	RANGEDOT	63062
TRUERANGE	63063	SINORIENT	63064	COSORIENT	63065
SINAZEL	63066	COSAZEL	63070	ACQAZIM	63071
ACQLEVV	63075	FRAMESIZE	63101	ROTOMETER	63102
TIME00E	63103	FIRSTTELEV	63104	ASTROMETER	63105
ASTRO0E	63106	TIMECORR	63107	KYBROLEVEL	63110
TTYSTATUS	63111	RECORDSIZE	63112	CELBODY	63113
TOITIME	63130	TO2TIME	63131	TRUETIME	63132
CELTIME	63133	SCELTIME	63134	CONVERTIME	63135
SRAOTIME	63136	HOURMINUTE	63137	SECONDS	63140
OSECONOS	63141	ACTUALTIME	63142	ESTSHIFTEO	63143
GMTSHIFTTEO	63144	GMTMOU24	63145	BLASTOFF	63146
YEARMONTH	63147	DAY	63150	HOUREG	63151
MINREG	63152	FIRSTTHRU	63153	QUMSECTTG	63154
RECROSWTCH	63155	RELEASESW	63156	TOIRECRO	63210
TO2RECRO	63211	RECFILE	63212	IDISYSPAR	63310
TO2SYSPAR	63311	RAOARMDE	63312	SYSTAT1	63313
SYSTAT2	63314	SYSTAT0	63315	DELTATEE	63316
FREQUENCY	63317	LONGITUDE	63320	GEOEFTLAT	63321
GEOCENLAT	63322	EQUATOR	63323	YRTRAN	63324
AZIMOVER	63325	HEIGHT	63326	MSFREQ	63327
ZRTRAN	63330	SKIP	63331	VELOFLIGHT	63335
WFREQ	63333	MAINSWITCH	63334	NMPERAU	63340
LSPERAU	63336	FLATTENING	63337	EXPNAME	63350
AUPEREQUAT	63341	KMPERAM	63342	MCPGM	63412
TOIENTPNT	63410	TO2ENTPNT	63411	RECREO	63415
INTER	63413	COCON	63414	CORCT	63420
AOSCN	63416	AESCN	63417	PRLOG	63423
OYOMP	63421	CHCOR	63422	INTERCOM	63426
CELCOMPGM	63424	DATANALYZE	63425	CHPAR	63431
ACQUI	63427	ROMTR	63430	PLAHP	63434
WFORO	63432	ROXXX	63433	TO1RADIO	63440
TIMEP	63435	PLOT	63436	ELEVATO	63443
TO2RADIO	63441	AZIMADD	63442	INAZIMADD	63446
OOPPADO	63444	RANGEADD	63445	MILLSTNADD	63451
INELEVADD	63447	WFAD0	63450	SYSCOMMREG3	63454
SYSCOMMREG1	63452				

SPURT OUTPUT NO. 212  
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CHANGE CORRE

LABEL	LOC	LABEL	LOC	LABEL	LOC
SYSCOMMREG4	63455	SYSCOMMREG5	63456	SYSCOMMREG6	63457
INTERLOCKSW	63460	PREVIOUSTM	63461	BODYSIZE	63462
AZELBXSCAN	63500	AZMTHSCAN	63501	ELVINSCAN	63502
RAOCBXSCAN	63503	RASCTNSCAN	63504	OECLINSCAN	63505
ROTATERADN	63506	ROTATEAEBX	63507	ROTATERBX	63510
HOLONOHOLD	63511	AZIMOFFSET	63512	ELEVOFFSET	63513
RAOFFSET	63514	OECOFFSET	63515	CROSSOFFSET	63516
ALNGOFFSET	63517	TIMETOHDLD	63520	PERIOELEV	63521
ARCOFEDEV	63522	PERIOAZIM	63523	ARCOFAZIM	63524
PERIODEC	63525	PERIODRA	63526	PERIODRA	63527
ARCOFRA	63530	RAOECDTIME	63531	AZELOTIME	63532
RAOIORA	63540	RADIODEC	63541	SYNTIMING	63542
103RAO10	63776	ID4RADIO	63777	AZIMOUT	64000
105RAO10	64776	ID6RADIO	64777	ELEVOUT	65000
ID7RAO10	65776	IDBRAO10	65777	OOPDOUT	66000
ID9RAO10	66776	ID10RADIO	66777	RECAZIM	67000
ID11RAO10	67776	ID12RADIO	67777	RECELEV	70000
ID13RAO10	70775	ID14RADIO	70776	RANGEOUT	70777
MCPFLILLER	71000	ID15RADIO	71776	ID16RADIO	71777
INTERAITM	72000	ID17RADIO	72776	ID18RAO10	72777
INTEREEV	73000	ID19RADIO	73776	ID20RAO10	73777
INTEROOPP	74000	ID21RADIO	74776	ID22RAO10	74777
AZIMIN	75000	ID23RADIO	75776	ID24RAO10	75777
ELEVIN	76000	ID25RADIO	76775	ID26RAO10	76776
INTERRANGE	76777	ID1SYSENT	77576	ID23SYSENT	77577
SYSENTRIES	77600	ID1SYSNAME	77676	ID22SYSNAME	77677
SYSNAMES	77700				

END OF LISTING

***** SPURT OUTPUT NO. 210 *****					
***** MATHIAS N. 3/26/65 *****					
CARD#	L1 TO LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
•	COCC0 PARAMETER	PROGRAM MATHIASN*3/26/65	00000	00002	OCOC4
•	COCC1 PARAMETER	U-TAG M\$TART*!START	00001	10152	SC627
•	COCC2	FO 1*CHPAR			
•	COCC3	COMMENT CHANGE			
•	COCC4	COMMENT DUMMY			
•	COCC5 M\$TART	ENTRY	00002	61000	OCOC0
•	COCC6	EXIT	00003	61010	OCOC2
•	COCC7	COMMENT INITIALIZATION	00004	6100C	OCOC0
•	COCC8 I\$TART	RJP U(INTERCOM)	00005	65020	63426
•	COCC9	U-TAG HEADING0	00006	00045	OCOC0
•	COCC10 REAQPAR	CL W(PARNAME)	00007	16030	00114
•	COCC11	RJP U(INTERCOM)	00010	65020	63426
•	COCC12	C ANSWER1	00011	00000	OC112
•	COCC13	ENT A W(PARNAME)*ANOT	00012	11530	0C114
•	COCC14	ENT L(SYS\$COMREG1)	00013	61010	63452
•	COCC15	STR A*Q	00014	15000	OCOC0
•	COCC16	ENT A*ENOOFTABLE	00015	11000	OC221
•	COCC17	SUB A*TABLE	00016	21000	OC133
•	COCC18	SUB A*1	00017	21000	000C1
•	COCC19	ENT B5*A	00020	12570	OCOC0
•	COCC20	ENT Y-Q*W(TABLE-5+B5)*ANOT	00021	31535	0C126
•	COCC21				INDEX SETTING FOR SEARCH
•	COCC22				DOES NAME MATCH FIRST 5 CHARAC
•	COCC23				TERS
•	COCC24				YES, (TEMPORARY INSTRUCTION)
•	COCC25 SEARCH				
•	COCC26	JP MATCH1+3	00022	61000	00034
•	COCC27	COMMENT AFTER			
•	COCC28	ENT B5+B5-4	00023	12505	77773
•	COCC29 NEXTENTRY				NO. INDEX 10 NEXT NAME IN TAB
•	COCC30				LE
•	COCC31	BJP B5*\$+1	00024	72500	OC025
•	COCC32	BJP B5*SEARCH	00025	72500	OC021
•	COCC33	RJP U(INTERCOM)	00026	65020	63426
•	COCC34	U-TAG ERRORMSG*0	00027	00117	OCOC0
•	COCC35	JP READPAR	00030	61000	00C7
•	COCC36 MATCH1	ENT A W(PARNAME*1)	00031	11030	00115
•	COCC37	SUB A W(TABLE-4+B5)*AZERO	00032	21435	0C127
•	COCC38	JP NEXTENTRY	00033	61000	00023
•	COCC39	MOVE 4*W(TABLE-3+B5)*W(ANSWER2)	00034	10005	00130
•	COCC40		00035	14010	OC037
•	COCC41		00036	12700	OCOC3
•	COCC42		00037	10037	OCOC0
•	COCC43	RJP U(INTERCOM)	00040	14037	OC127
•	COCC44	C ANSWER2	00041	7270C	OC037
•	COCC45 HEADING	JP READPAR	00042	65020	63426
•	COCC46	FO 1*A	00043	00000	OC127
•	COCC47	-FO \$+1	00044	61000	000C7
•		4*CHANGE PARAMETERS.	00045	0605C	SC5C5
•			00046	77777	OC047
•			00047	10150	62314
•			00050	12052	50627
•			00051	06221	23112

CARD	L1	I0	LABEL	TA	STATEMENT	SPURT	OUTPUT	NO.	210	MATHIAS EN# 3/26/65
						LOC	F	JKB	Y	NOTES
	*	COC50			C405C50303 FO 11D•NAME OF PARAMETER, CARRIAGE RETURN, NEW VALUE, CARRIAGE	00052	27307	505C5		
	*	COC51				00053	04050	503C3		
						00054	23062	21205		
						00055	24130	52506		
						00056	27062	21231		
						00057	12275	6C510		
						00060	06272	71626		
						00061	14120	52712		
						00062	31322	72356		
						00063	05231	23405		
						00064	33062	13212		
						00065	56051	00627		
						00066	27160	61412		
						00067	05271	23132		
						00070	27237	5C515		
	*	COC52			FO 2* RETURN.	00071	U4050	505C3		
	*	COC53			C405C50503 FO 11D•WHEN FINISHED CHANGING PARAMETER	00072	34151	223C5		
	*	COC54			RS, PRESS CARRIAGE RETURN	00073	13162	31630		
						00074	15121	1C510		
						00075	15062	31416		
						00076	23140	52506		
						00077	27062	21231		
						00100	12273	05605		
						00101	25271	23030		
						00102	05100	62727		
						00103	16061	412C5		
						00104	27123	13227		
						00105	23050	623C5		
						00106	12353	12706		
						00107	05311	62212		
						00110	75050	505C5		
						00111	77777	77777		
	*	COC56			-0 FO 1•M10 C1 PARMNAME	00112	22612	4C5C5		
	*	COC57			COC60 C1 FO 2*	00113	00001	0C114		
	*	COC61				00114	05050	5C5C5		
	*	COC62			COMMENT REMOVE	00115	0505C	5C5C5		
	*	COC63			RESERVE 1	00116	00000	0C0C0		
	*	COC64			FO 1•A	00117	06050	505C5		
	*	COC65			\$+1	00120	77777	0C121		
	*	COC66			5•PARAMETER NOT IN TABLE	00121	25062	70622		
						00122	12311	22705		
						00123	23243	1C516		
						00124	23053	1C5C7		
						00125	21120	5C5C5		
	*	COC67			-0 FO 1•	00126	77777	77777		
	*	COC7C			RESERVE 1	00127	0505C	5C5C5		
	*	COC71				00130	00000	0C0C0		
	*	COC72			RESERVE 2	00131	00000	0C0C0		LOWER LIMIT. UPPER LIMIT

\*\*\*\*\* SPURT OUTPUT NO. 210 \*\*\*\*\*  
 MATHASEN 3/26/65

CARDS	L1 L0 LABEL	TA STATEMENT	COMMENT	TABLE	LOC	F	JKB	Y	NOTES	
*	C0C73		COMMENT	TABLE					OF PARAMETERS THAT MAY BE CHAN	
*	C0C74	COMMENT EPHemeris	FD 2*DELTATEE		00133	11122	131C6		GEO	
*	C0C75	TABLE	FD 1*X28		00134	31121	2C5C5		TIME - UNIVERSAL TIME	
*	C0C76		11 DELTATEE		00135	35627	0C5C5			
*	C0C77	7777745622			00136	00011	63316	LIMIT CHECK, MARGIN.	LOCATION	
*	C01C0				00137	77777	45622	DEC	-0.00005B28	LO
*	C01C1	C001C14223			00140	00010	14223	DEC	+.001828	UP
*	C01C2	COMMENT HAYSTACK	FD 2*FREQUENCY		00141	13271	22632		PER LIMIT	
*	C01C3		FD 1*X14		00142	12231	03665		RADAR FREQUENCY	
*	C01C4		11 FREQUENCY		00143	35616	4C5C5			
*	C01C5	CCOCOCOCOCO			00144	00011	63317			
*	C01C6		000DCC0000		00145	00000	OCOCO	DEC	0.B14	
*	C01C7	1161000000			00146	11610	OCOCO	DEC	10000.B14	
*	C01C8	COMMENT WESTFORD	FD 2*WFFREQ		00147	34131	32712		FREQUENCY	
*	C0111		FO 1*X14		00150	26050	5C5C5			
*	C0112		11 WFFREQ		00151	35616	4C5C5			
*	C0113	000DCC0000			00152	00011	63333			
*	C0114		1161CCOCOCO		00153	00000	OCOCO	DEC	0.B14	
*	C0115	COMMENT HAYSTACK	FD 2*LONGITUDE		00154	11610	OCOCO	DEC	10000.B14	
*	C0116		FD 1*X20		00155	21242	31416		LONGITUDE	
*	C0117		11 LONGITUDE		00156	31321	112C5			
*	C0120	5137777777			00157	35622	405C5			
*	C0121				00160	00011	63320			
*	C0122				00161	51377	77777	DEC	-360.B20	
*	C0123	2640CC0000			00162	2640C	OCOCO	DEC	+360.B20	
*	C0124	COMMENT HAYSTACK	FD 2*GEOELAT		00163	14122	41112		LATITUDE	
*	C0125		FO 1*X20		00164	31210	631C5			
*	C0126		11 GEOELAT		00165	35622	405C5			
*	C0127	7227777777			00166	00011	63321			
*	C0130				00167	72277	77777	DEC	-90.B20	
*	C0131	C55DC00000			00170	05500	OCOCO	DEC	+90.B20	
*	C0132	COMMENT HAYSTACK	FD 2*HEIGHT		00171	15121	61415		HEIGHT	
*	C0133		FO 1*D		00172	31050	5C5C5			
*	C0134		11 HEIGHT		00173	11050	5C5C5			
*	C0135				00174	00011	63326			

*****			*****			*****			*****		
CAROS			LI	IO	LABEL	TA	STATEMENT		SPURT	OUTPUT	NO. 210
									MATHIASEN*3/26/65		
*	C0136								00175	77777 77323	DEC
*	C0137								00176	00000 72460	DEC
*	C0140					COMMENT	EQUATORIAL				
*	C0141					FO	2*EQUATOR		00177	12263 20631	
*	C0142					FO	1*X17		00200	24270 5C5C5	
*	C0143					11	EQUATOR		00201	35616 705C5	
*	C0144					2734C00000			00202	00011 63323	
*	C0145					3720C00000			00203	27340 0C000	DEC
*	C0146					COMMENT	POLAR		00204	37200 0C000	DEC
*	C0147					FO	2*POLE				
*	C0150					FO	1*X17		00205	25242 112C5	
*	C0151					11	POLE		00206	05050 5C5C5	
*	C0152					2734C00000			00207	35616 705C5	
*	C0153					3720CC0000			00210	00011 63324	
*	C0154					FO	2*AZIMOVER		00211	27340 000C0	DEC
*	C0155					FO	1*0		00212	37200 0C000	DEC
*	C0156					01	AZIMOVER				
*	C0157					RESERVE	2		00213	06371 62224	
*	C0160					5757575757			00214	33122 7C5C5	
*	C0161					NO-OP			00215	24050 5C5C5	
									00216	00001 63325	
									00217	00000 0C000	
									00221	57575 75757	ATTENTION CHARACTERS
									00222	12000 000C0	DUMMY

END OF LISTING

SPURT OUTPUT NO. 211

MATHIASSEN# 3/26/65

PARAMETER	LOC	LABEL	LOC	LABEL	LOC	LOC	LOC
A\$#####1111	00037	ACQAZIM	63071	ACQELEV	63075		
ACQUI	63427	ACTUALTIME	63142	ADSCN	63416		
AESCN	63417	ALNGOFSSET	63517	ANSWER1	00112		
ANSWER2	CD127	ARCOFAZIM	63524	ARCUDFC	63526		
ARCCFELV	63522	ARCOFRA	63520	ASTRODEC	63106		
ASTRORA	63105	AUPEREQUAT	63241	AZELTIME	63532		
AZELBSCAN	63500	AZIM	63053	AZIMOFFSET	63512		
AZIMOUT	64000	AZIMOVER	63325	AZIMADD	63442		
AZIMIN	75000	AZMTHSAN	63501	BODYSIZE	63462		
BLASTOFF	63146	COCON	63414	CONVERTIME	63135		
CORCT	63420	COSORIENT	63065	COSAZEL	63070		
CAZIM	63060	CSELBODY	63113	CELCOMPGM	63424		
CELEV	63061	CETLIVE	63133	CHCDR	63422		
CHPAR	63431	CHANGE	63057	CRSSOFFSET	63516		
DCPDUIT	66000	DOPPANO	63444	DATANALYZE	63425		
DAY	63150	DEC	63003	DECOFFSET	63515		
DECOUT	63010	DECLINSCAN	63505	DELDATE	63316		
DSECONDS	63141	DUMSECTG	63154	DYDMP	63421		
ELEV	63054	ELEVSET	63513	ELEVTSCAN	63502		
ELEVADD	63443	ELEVIN	76000	ERRORMSG	00117		
ENDCFTABLE	00221	EQUATOR	63323	FIRSTLEV	63104		
ESTSHIFTED	63143	EXPNAME	63350	FRAMESIZE	63101		
FIRSTTHRU	63153	FLATTENING	63337	GEODELAT	63321		
FREQUENCY	63317	GEOCEVAL	63312	HOLDNOHOLD	63511		
GMWCOU24	63145	GMTSHIFTED	63144	HEADING	00045		
HOURMINUTE	63137	HOURREFG	63151	ID1RAD10	67776		
HEIGHT	63326	ID10RAD10	66777	ID12RAD10	70776		
ID12RAD10	67777	ID13RAD10	70775	ID17RAD10	71776		
ID15RAD10	71776	ID16RAD10	71777	ID19RAD10	73776		
ID18RAD10	72777	ID19RAD10	73776	ID21RAD10	63000		
ID19RAD10	63410	ID1RAD10	63050	ID1RAD10	63440		
ID1ENTPNT	63210	ID1SYSNTR	77575	ID1SYSNAM	77676		
ID1PFCRD	63210	ID1TIVIE	63130	ID2RAD10	70776		
ID1SYSNAM	63310	ID22RAD10	74777	ID23RAD10	75776		
ID21RAD10	74776	ID25RAD10	76775	ID26RAD10	76776		
ID25RAD10	75775	ID2ENTPNT	63411	ID2RADCUR	63051		
ID26RAD10	63001	ID2REC0	63211	ID2SYSENT	77577		
ID2RADCUR	63441	ID2SYSNAR	63311	ID2TIME	63131		
ID2RADCUR	77677	ID4RAD10	63777	ID5RAD10	64776		
ID3RAD10	63776	ID7RAD10	65776	ID8RAD10	65777		
ID6RAD10	64777	INAZIMADD	63466	INFLEVELD	63447		
ID9RAD10	66776	INTERAZIM	72000	INTERCDM	63426		
INTER	63413	INTERLEV	73000	INTERLCSW	63460		
INTERDOPP	74000	ISTART	00004	KPERNM	63342		
INTERRANGE	76777	LONGITODE	63320	LSPERAU	63336		
KYBULEVEL	63110	MATCH1	00031	MPFILLER	71000		
MAINSPLIT	63334	MILLSTADD	63451	MINREG	63152		
MPGM	63412	MSTART	00002	NEXTENTRY	00023		
MPERIOD	63332	PDLE	63344	PARAMETER	00000		
NPRAU	63340	PERIODAZIM	63523	PERIODTC	63525		
PARNME	CD114	PERIODRA	63527	PERIODLP	63436		
PERICDELEV	63521						

\*\*\*\*\* SPURT OUTPUT NO. 211 \*\*\*\*\*

PARAMETER

LABEL	LOC	LABEL	LOC	LABEL	LOC
PLANP	63434	PREVIOUSM	63461	PRLOG	63423
RCTATEBX	63507	ROTATERDN	63506	ROTATERBX	63510
RA	63C12	RAOFFSET	63514	RADOT	63007
RACARMDCE	63312	RADCBXSCAN	63503	RADECOTIME	63531
RACITUDEC	63541	RADIOMETER	63102	RADIORA	63540
RADIUS	63C06	RADIUSDOT	63011	RANGE	63052
RANGEOUT	7C777	RANGEADD	63445	RANGEDOT	63062
RASCNTNSCAN	63504	RDCTR	63430	RDXXX	63433
REACPAR	C0017	RECORDSIZE	63112	RECAZIM	67000
RECELEV	70000	RECFILE	63212	RECZIM	63415
RECORDSWCH	63155	RELEASESW	63156	SAZIM	63055
SCLTIME	63134	SDEC	63005	SEARCH	00021
SECCONDS	63140	SELEV	63056	SIDERTIME	63012
SINCRIENT	63C64	SINAZE1	63066	SKIP	63331
SRA	63C14	SRADTIME	63136	SYNCTIMING	63542
SYSCOMMREG1	63452	SYSCOMMREG2	63453	SYSCOMMREG3	63454
SYSCOMMREG4	63455	SYSCOMMREG5	63456	SYSCOMMREG6	63457
SYSENTRIES	77600	SYSNAMES	77700	SYSTATI	63313
SYSTATE2	63314	SYSTAD	63315	TABLE	00133
TIMECDR	63107	TIMEODE	63103	TIMEIP	63435
TIMEFDHOLC	63520	TRUERANGE	63063	TRUETIME	63132
TTYSTATUS	63111	TWSECDOP	63017	VEOLFIGHT	63335
V1DECI	63C14	VIZOEC2	63016	VIZRAL	63013
VIZRA2	63C15	WFORD	63432	WFADD	63450
WFREQ	63333	YEARMONTH	63147	YRTRAN	63327
ZRTRAN	63330				

END OF LISTING

SPURT OUTPUT Nu. 212

MATHIASEN# 3/26/65

PARAMETER	LOC	LABEL	LOC	LABEL	LOC	LABEL
PARAMETER	COCUO	M START	00002	I START	00004	
READPAR	DOC07	SEARCH	00021	NEXTENTRY	00023	
MATCH1	C0031	A\$\$\$\$\$1111	00037	HEADING	00045	
ANSWER1	C0112	PARNME	00114	ERRORMSG	00117	
ANSWER2	C0127	TABLE	00133	ENDTABLE	00221	
ID1CELCR	63C00	ID2CEL COR	63001	RA	63002	
DEC	63D03	SRA	63004	SDEC	63005	
RADIUS	63006	RADOT	63007	CECDOT	63010	
RADIUSDOT	63011	SIDERTIME	63012	VIZR1	63013	
VIZDEC1	63014	VIZRAZ	63015	VIZDEC2	63016	
TWSECCDP	63017	IDIRADCOR	63050	ID2RADCUR	63051	
RANGE	63D52	AZIM	63053	ELEV	63054	
SAZIM	63055	SELEV	63056	CRANGE	63057	
CAZIM	63C060	CELEV	63061	RANGEDOT	63062	
TRUE RANGE	63063	SINORIENT	63064	ACQAZIM	63065	
SINAZEL	63066	COSAZEL	63070	RADIOMETER	631U2	
ACQUEV	63075	FRAMESIZE	63101	ASTRORA	631U5	
TIMEODE	63103	FIRSTLEV	63104	KYBROLEVEL	631U6	
ASTRODEC	63106	TIMEODR	63107	CELBODY	63113	
TTSTATUS	63111	RECORDS1ZE	63112	TRUE TIME	63132	
ICETIME	63130	ID2TIME	63131	CONVERTIME	63135	
CELTIME	63133	SCETIME	63134	SECONDS	63140	
SRADTIME	63136	HOURMINUTE	63137	ESTSHIFTED	63143	
DSFONDS	63141	ACTUAL TIME	63142	BLASTOFF	63146	
GWTSHIFTED	63144	GMTMOU24	63145	HOURREG	63151	
YEARMONTH	63147	DAY	63150	DUMSECTIG	63154	
WIREG	63152	FIRSTTHRU	63153	ID1RECORD	63210	
RECORDSWTCH	63155	RELEASESW	63156	IDISYSPAR	63310	
ID2ECCR	63211	REFFILE	63212	SYSTATL	63313	
ID2SYSPAR	63311	RADARMODE	63312	DELTATEL	63316	
SYSTAT2	63314	SYSTATO	63315	GENDETTEL	63321	
FREQUENCY	63317	LONGITUDE	63320	POLTE	63324	
GEOCENLAT	63322	EQUATOR	63323	YRTRAN	63327	
AZIMOVER	63325	HEIGHT	63326	MSFREQ	63332	
ZRTRAN	63330	SKIP	63331	VELOFLIGHT	63335	
WFREQ	63333	MAINSWITCH	63334	NMPERAU	63340	
LSPERAU	63336	FLATTENING	63337	EXPNAME	63350	
AUPEREQUAT	63341	KMPERM	63342	MCPCM	63412	
IDENTPNT	63410	ID2ENTPNT	63411	RECRD	63415	
INTER	63413	COCON	63414	CORCT	63420	
ADS CN	63416	AE SCN	63417	PRLOG	63423	
DYDMP	63421	CHCOR	63422	INTERCOM	63426	
CELCOMP	63424	DATANALYZE	63425	CHPAR	63431	
ACQUI	63427	RD MTR	63430	PLANP	63434	
WFORD	63432	RDXXX	63433	IDIRADIU	63440	
TIMEP	63435	PLOTP	63436	ELEVAUD	63443	
LG2RADIC	63441	AZIMADD	63442	INAZIMADU	63446	
DCPPADD	63444	RANGEADD	63445	MILSTNADD	63451	
INELLEVAC	63447	WFADD	63450	SYSCOMREG3	63454	
SYSCOMREG1	63452	SYSCOMREG2	63453	SYSCOMREG5	63455	
SYSCOMREG4	63455					

SPURT OUTPUT NO. 212

MATHIASSEN 3/26/65

PARAMETER

LABEL	LOC	LABEL	LOC	LABEL	LOC
INTERLOCK	63460	PREVIOUS	63461	BODYSIZE	63462
AZELBXCAN	63500	AZTHSCAN	63501	ELVNSCAN	63502
RADCBCXCAN	63503	RASCTNSCAN	63504	DECLINSCAN	63505
RCTATEAON	63106	ROTATERBX	63507	ROTATERBX	63510
HCLONDHOLD	63511	AZIMOFSET	63512	ELEVOFFSET	63513
RAOFFSET	63514	DECOFFSET	63515	CROSSOFFSET	63516
ALNGOFFSET	63517	TIME THOLD	63520	PERIODLEV	63521
ARCOFELV	63522	PERIODAZIM	63523	ARCOFAZIM	63524
PERIODDEC	63525	ARCFDEC	63526	PERIODRA	63527
ARCOFRA	63530	RADECJTIME	63531	AZELUTIME	63532
RADIORA	63540	RADDDEC	63541	SYNCTIMING	63542
ID3RADID	63776	ID4RADID	63777	AZIMOUT	64000
ID5RADID	64776	ID6RADID	64777	ELEVOUT	65000
ID7RADID	65776	ID8RADID	65777	DDPPDUT	66000
ID9RADID	66776	IDIORADIO	66777	RECAZIM	67000
ID11RADID	67776	ID12RADID	67777	RECELEV	70000
ID13RADID	70775	ID14RADID	70776	RANGEDUJ	70777
MCPFILTER	71000	ID15RADID	71776	ID16RADID	71777
INTERALIM	72000	ID17RADID	72776	ID18RADID	72777
INTERREV	73000	ID19RADID	73776	73777	
INTERDPP	74000	ID21RADID	74776	ID22RADID	74777
AZIMIN	75000	ID23RADID	75776	ID24RADID	75777
ELEVIN	76000	ID25RADID	76775	ID26RADID	76776
INTERRANGE	76777	ID1SYSNT	77576	ID2SYSNT	77577
SYSNAMES	77000	ID1SYSNM	77677	ID2SYSNM	77677

END OF LISTING

CAROS		L1 TO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
		C0000 OYOMPPGM	PROGRAM S-J-WHITE*06/23/64	00000	00002	00164		
		C0001 OYOMPPGM	U-TAG OYOWORK*OY0INIT	00001	11361	12225		
		C0002	FO 1*OYOMP	00002	61000	00000		
		C0003 OYOWORK	ENTRY	00003	12500	00000		
		C0004	CL B5*	00004	12600	00000		
		C0005	CL B6*	00005	12700	00000		
		C0006	CL B7*	00006	11430	00163		
		C0007	ENT A*W(STACK+250)AZERO	00007	61000	00067		
		C0010	JP GOLOG	00007	61000	00067		
		C0011	RPT 170*AOV	00010	70100	00021		
		C0012	STR BO*W(WOROBLOCK)	00011	16030	00105	CLEAR WOROBLOCK	
		C0013	STR Q*W(WOROBLOCK)	00012	14030	00105		
		C0014 AGAIN	ENT A*2	00013	11000	00002		
		C0015	STR A*W(TWOCT)	00014	15030	00126	SET COUNT TO PROCESS 2 HALFS W ORO	
		00016	ENT A*L(AOORBUFF+B5)*AZERO	00015	11415	00351	ENT A W/AOORESS TO FINO CONTEN TS	
		C0017	JP CONTON	00016	61000	00026		
		00020	ENT A*W(AOORBUFF+B5)	00017	11035	00351		
		C0021	SUB A*7777700000*AZERO	00020	21430	00420		
		C0022	JP CONTON	00021	61000	00026		
		C0023	ENT B6*B6+2	00022	12606	00002		
		C0024	BSK B5*7	00023	71500	00007		
		C0025	JP AGAIN	00024	61000	00013		
		C0026	FILLBUFFER-2	00025	61000	00045		
		C0027	CONTON	00026	11015	00351		
		00030	STR A*L(\$+)	00027	15010	00030		
		00031	ENT Q*W(0)	00030	10030	00000	PICK UP CONTENTS	
		C0032 MOREQ	CL A*	00031	11000	00000	CONVERT FROM OCT TO FO	
		C0033	LSH AQ*3	00032	07000	00003		
		00034	A00 A*60	00033	20000	00060		
		00035	STR A*W(SAVEA)	00034	15030	00127		
		C0036	ENT A*W(WOROBLOCK+1+B6)	00035	11036	00106		
		C0037	LSH A*6	00036	60000	00006		
		C0040	A00 A*W(SAVEA)	00037	20030	00127		
		C0041	STR A*W(WOROBLOCK+1+B6)	00040	15036	00106		
		C0042	BSK B7*4	00041	71700	00004		
		C0043	JP MOREQ	00042	61000	00031		
		C0044	BSK B6*150	00043	71600	00017		
		00045	JP MOREROS	00044	61000	00101		
		C0046	CL B5*	00045	12500	00000		
		C0047	ENT B6*)	00046	12600	00001		
		C0050 FILLBUFFER	ENT A*W(WOROBLOCK-1+B6)	00047	11036	00104	STORE WORDS CONVERTED FROM OCT TO	
		CC051	STR A*W(STACK+B5)	00050	15035	00132		
		C0052	CL A*	00051	11000	00000		
		C0053	ENT Q*W(WOROBLOCK+B6)	00052	10036	00105		
		C0054	LSH AQ*6	00053	07000	00006		
		C0055	STR A*W(STACK+1+B5)	00054	15035	00133		
		C0056	LSH AQ*300	00055	07000	00036		
		C0057	STR A*W(STACK+2+B5)	00056	15035	00134		
		00060	ENT B5*B5+3	00057	12505	00003		
		CC061	ENT B6*B6+1	00060	12606	00001		

CAROS		L1 TO LABEL	TA STATEMENT	SPURT OUTPUT NO. 210 S. J. WHITE•06/23/64	LOC	F JK8 Y	NOTES
	C0062		BSK 86*160 JP FILLBUFFER ENT A•W1WORDBLOCK+16D) STR A•WSTACK+B51 PUT LISTKBUFF)•L1\$+2)	00061 00062 00063 00064	71600 61000 11030 15035	00020 00047 00125 00132	LAST WORD 125TH WORD
	C0063	FILLBUFFJR		00065	10010	00131	
	C0065			00066	14010	00070	
	C0066			00067	65020	63423	
	00067	GOLOG	RJP U1PRLOG1 260 0 -1 0 JP CHANACTV RPT 260•AOV CL WSTACK)	00071 00072 00073 00074 00075	77776 61000 70100 16030 61010	00000 00076 00032 00032 00002	
	C0070			00076	10030	00130	
	C0071			00077	14030	00163	
	C0072			00077	61010	00002	
	C0073			00100	61010	00022	
	C0074			00101	37430	00126	HAS BOTH HALFS WORD BEEN PROCE SSE0
	C0075						
	C0076	CHANACTV	EXIT PUT WIMARKBUFF1•WISTACK+2501				
	00077						
	00100	MOREWORDS	EXIT RPL Y-1•W1WDOCT)•AZERO				
	00101						
	00102						
	C0103		JP MOREQ ENT B5•B5+1 JP AGAIN	00102 00103	61000 12505	00031 00001	NO YES
	00104	WORDBLOCK	RESERVE 170	00104	61000	00013	
	00105	WORDCT	RESERVE 1	00105	00000	00000	
	C0106	SAVEA	RESERVE 1	00126	00000	00000	
	00107	MARKBUFF	353550000 U-TAG STACK+250•STACK	00127	00000	00000	
	00110	STKBUFF	RESERVE 260	00130	35353	50000	
	00111	STACK	ENTRY CL B5*	00131	00163	00132	
	00112	DOINIT	CL B6*	00132	00000	00000	
	00113	SETREG	ENT A•W1KOUTPUTSW)•ANOT	00164	61000	00000	
	C0114		JP NOOUT	00165	12500	00000	
	00115		JP U1INTERCOM1	00166	12600	00000	
	00116		U-TAG STOP•YORN	00167	11530	00362	
	00117		ENT A•UIANS)	00170	61000	00273	NO
	00120		SUB A•36000•AZERO	00171	65020	63426	YES
	00121		JP CONT1	00172	00313	00315	STOP YES OR NO
	00122		STR BO•UIYOMP1	00173	11020	00347	
	00123		STR BO•W1KOUTPUTSW)	00174	21400	36000	
	00124		EXIT A~-0	00175	61000	00201	NO
	00125		ENT A•W1ANS)	00176	16020	63421	YES
	00126		RJP U1INTERCOM1	00177	16030	00362	
	00127	CONT1	U-TAG CHANCOL•WHCOL	00200	61010	00164	EXIT
	00130		ENT A•W1ANS)•AZERO	00201	11040	77777	
	00131		RJP U1INTERCOM1	00202	15030	00347	SET ANS TO -0
	00132		U-TAG CHANCOL•WHCOL	00203	65020	63426	
	00133		ENT A•W1ANS)•AZERO	00204	00317	00321	
	00134		JP CONT2	00205	11420	00347	
	00135		RJP U1INTERCOM1	00206	61000	00216	YES
	00136		U-TAG ASKA0RESS	00207	65020	63426	NO
	00137		ENT A•W1LOCNUM1	00210	00325	00327	PICK UP NEW O/P ADDRESS
	00140		ENT B5•LIANS)	00211	11030	00350	SET B TO NO.O/P ADDR TO BE CHA NGEO
	C0141		STR A•W1AOORBUF+B51	00212	12510	00347	STORE NEW O/P ADDR.
	C0142		BSK B6•7	00213	15035	00351	
				00214	71600	00007	

CAROS			SPURT OUTPUT NO. 210 S.J.WHITE#06/23/64	LOC	F JKBY	NOTES
L1	10	LABEL	TA STATEMENT			
		00143	JP CONT1	00215	61000 00201	
		CC144	CL B5*	00216	12500 00000	
		CC145	CL B6*	00217	12600 00000	
		00146	CL B7*	00220	12700 00000	
		00147	ENT A*W(PRINTAREA)	00221	11030 00363	
		CO150	STR A*W(PRINTAREA)	00222	15030 00365	FILL PRINTOUT BUFFER
		CO151	CL A*	00223	11000 00000	
		00152	STR A*W(PRINTAREA+1+B6)	00224	15036 00366	
		00153	ENT A*L(AOORBUF+B5)*ZERO	00225	11415 00351	IS L(AOORBUF)=0
		00154	GOFO	00226	61000 00236	NO
		00155	A*W(AOORBUF+B5)	00227	11035 00351	YES
		00156	SUB A*7777700000*ZERO	00230	2430 00420	REALY 0
		00157	JP GOFO	00231	61000 00236	NO
		00160	ENT B6*B6+3	00232	12606 00003	
		00161	BSK	00233	71500 00007	
		00162	LOOP2+2	00234	61000 00225	
		00163	PUTOUT	00235	61000 00256	
		00164	ENT Q*L(AOORBUF+B5)	00236	10015 00351	CONVERT AOORBUF TO FO
		00165	LSH Q*150	00237	50000 00017	
		00166	CL A*	00240	11000 00000	
		00167	LSH A*3	00241	66000 00003	
		00170	LSH AQ*3	00242	07000 00003	
		00171	AO0 A*60	00243	20000 00060	
		00172	BSK B7*4	00244	71700 00004	
		00173	JP LOOP1	00245	61000 00241	
		00174	ENT Q*A	00246	10070 00000	
		00175	CL A*	00247	11000 00000	
		00176	LSH AQ*1B0	00250	07000 00022	
		00177	STR A*W(PRINTAREA+2+B6)	00251	15036 00367	SET UP HEADING PRINT OUT AREA
		00200	STR Q*W(PRINTAREA+3+B6)	00252	14036 00370	
		00201	ENT B6*B6+3	00253	12606 00003	
		00202	BSK B5*7	00254	71500 00007	
		00203	JP LOOP2	00255	61000 00223	
		00204	PUTOUT L(PRINTOUT)*L(\$+2)	00256	10010 00364	
		00205	RJP U(PRLOG)	00257	14010 00261	
		C0206	260 0	00260	65020 63423	
		C0207	-1 0	00261	00032 00000	
		C0210	PUTOUT	00262	77776 00000	
		C0211	PUT L*W(KOUTPUTSW)	00263	61000 00256	
		00212	PUT OYOWORK*U(OYOMPI)	00264	10000 00001	
		00213	RPT 260*AOV	00265	00362 00002	
		C0214	CL W(STACK)	00266	10000 00002	
		C0215	EXIT	00267	14020 63421	
		C0216	ENT A*7777700000	00270	70100 00032	
		C0217	RPT BO*AOV	00271	16030 00132	
		C0220	STR A*W(AOORBUF)	00272	61010 00164	
		C0221	RPT 260*AOV	00273	11030 00420	
		C0222	STR BO*W(PRINTAREA)	00274	70100 00010	STR ALL 1 U(AOORBUF) BUFFER
		C0223	ENT A--0	00275	15030 00351	
		WHOS10		00276	70100 00032	
				00277	16030 00365	CLEAR PRINTAREA
				00300	00300 00000	

SPURT OUTPUT NO. 210  
S. J. WHITE•06/23/64

CAROS	L1 TO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
*	00224	STR A•W(LOCNUM) RJP U(INTERCOM)	00301	15030	00350		SET W(LOCNUM)=-0
*	00225	U-TAG ASK•ADDRESS	00302	65020	63426		
*	00226	ENT A•W(LOCNUM)*AZERO	00303	00325	00327		
*	00227	JP CONT2	00304	11420	00350		
*	00230	ENT A•W(LOCNUM)	00305	61000	00216	YES	
*	00231	ENT A•W(LOCNUM)	00306	11030	00350	NO	
*	00232	STR A•W(A00RBUF+B61	00307	15036	00351		
*	00233	BSK B6•7	00310	71600	00007		
*	00234	JP WHOIS0	00311	61000	00300		
*	00235	JP CONT2	00312	61000	00216	YES	
*	00236 STOP	FO 0•A	00313	06050	50505		
*	00237	FO -0 MESS1	00314	77777	00333		
*	00240 YORN	FO 1•L1	00315	21610	50505		
*	00241	1 ANS	00316	00001	00347		
*	00242 CHANCOL	FO 0•A	00317	06050	50505		
*	00243	FO -0 MESS2	00320	77777	00336		
*	00244 WHCOL	FO 0•0	00321	24050	50505		
*	00245	11 ANS	00322	00011	00347		
*	00246	0 0	00323	00000	00000		
*	00247	0 7	00324	00000	00007		
*	00250 ASK	FO 0•A	00325	06050	50505		
*	00251	FO -0 MESS3	00326	77777	00343		
*	00252 ADDRESS	FO 0•0	00327	24050	50505		
*	00253	11 LOCNUM	00330	00011	00350		
*	00254	0 0	00331	00000	00000		
*	00255	0 77777	00332	00000	77777		
*	00256 MESS1	FO 0•STOP (Y-N)	00333	30312	42505		
*	00257	-0	00335	77777	77777		
*	00260 MESS2	FO 0•CHANGE O/P (0-7)	00336	10150	62314		
*	00261	-0	00337	12052	47425		
*	00262 MESS3	FO 0•ENTER LOCATION	00340	05512	44167		
*	00263	-0 -0	00343	12233	11227		
*	00264 ANS	RESERVE 1	00344	05212	41006		
*	00265 LOCNUM	RESERVE 1	00345	31162	42305		
*	00266 ACORBUF	RESERVE 80	00346	77777	77777		
*	00267	-0 -0	00347	00000	00000		
*	00270 KOUTPUTSW	RESERVE 1	00350	00000	00000		
*	00271 KROG	FO 1•PGM	00351	00000	00000		
*	00272 PRINTOUT	U-TAG PRINTAREA+250•PRINTAREA	00361	77777	77777		
*	00273 PRINTAREA	RESERVE 260	00362	00000	00000		
*	00274	RESERVE 1	00363	25142	20505		
*			00364	00416	00365		
*			00365	00000	00000		
*			00417	00000	00000		
*			00420	77777	00000		

END OF LISTING

SPURT OUTPUT NO. 211

S.J.WHITE•06/23/64

LOC	LABEL	LOC	LABEL	LOC	LABEL
00420	ACQAZIM	63071	ACQELEV	63075	
63427	ACTUALTIME	63142	AODRBUF	00351	
00327	AOSCN	63416	AESCN	63417	
AGAIN	ALNGOFFSET	63517	ANS	00347	
63524	ARCOFOEC	63526	ARCOFFLEV	63522	
ARCOFRA	ASK	00325	ASTROEC	63106	
63530	AUPEREQUAT	63341	AZELTIME	63532	
ASTRORA	AZIM	63053	AZIMOFFSET	63512	
63105	AZIMOVER	63325	AZIMA00	63442	
AZELXSCAN	AZMTHSCAN	63501	BODYSIZE	63462	
AZIMOUT	COCON	63414	CDNTON	00026	
AZMIN	CONT2	00216	CONVERTIME	63135	
BLASTOFF	COSORIENT	63085	COSAZEL	63070	
CONTI	CELBOOY	63113	CELCOMP GM	63424	
CORT	CELLTIME	63133	CHANACTV	00076	
63420	CHCOR	63422	CHPAR	63431	
CAZIM	CRSSOFFSET	63518	OOPPOUT	66000	
63060	OATANALYZE	63425	OAY	63150	
CELEV	OECOFFSET	63515	OECOOT	63010	
63061	OELTATEE	63316	OSECNOVS	63141	
CHANCL	OYINIT	00164	OYOMP	63421	
CRANGE	OYOWORK	00002	ELEV	63054	
OOPPA00	ELEVOUT	65000	ELEVAV	63443	
0EC	ELVTNSCAN	63502	EQUATOR	63323	
OECLINSCAN	EXPNAME	63350	FILLBUFFER	00047	
OUMSECTTG	FIRSTLEV	63104	FIRSTHTRU	63153	
OYOMPPGM	FRAMESIZE	63101	FREQUENCY	63317	
ELEVFFSET	GOLOG	00067	GEOCENLAT	63322	
ELEVIN	GMTMOOU24	63145	GMTSHIFTEO	63144	
ESTSHIFTEO	HOURMINUTE	63137	HOURREG	63151	
FILLBUFFJR	I01RA010	66776	I01RA010	67776	
FLATTENING	I013RA010	70775	I01RA010	70777	
GOFO	I016RA010	71777	I01RA010	72776	
GEODETLAT	I019RA010	73776	I01CELCOR	63000	
HOLONOHOL0	I01RAOCOR	63050	IDIRAO10	63440	
HEIGHT	I01SYSEN	77516	I01SYSNAM	77676	
63326	I01TIME	63150	I02RA010	73777	
1012RADIO	I022RA010	74777	I02RA010	75776	
1015RA010	I025RA010	76775	I02RA010	76776	
101BRADIO	I02ENTPNT	63411	I02RAOCOR	63051	
72777	I02RECRO	63211	I02SYSENT	77577	
101ENTPNT	I02SYSNAM	63311	I02TIME	63131	
63410	I02YSYSPAR	63311	I03RA010	64776	
101RECR0	I04RA010	63777	I03RA010	65776	
63210	I07RA010	65776	I07RA010	65776	
101SYSNAM	I08RA010	65776	I08RA010	65776	
63310	I09RA010	65776	I09RA010	65776	
1021RA010	I02RA010	65776	I09RA010	65776	
74777	I02RA010	65776	I09RA010	65776	
1022RA010	I02RA010	65776	I09RA010	65776	
75777	I02RA010	65776	I09RA010	65776	
102CELCOR	I02RA010	65776	I09RA010	65776	
63001	I02RA010	65776	I09RA010	65776	
102RA010	I02RA010	65776	I09RA010	65776	
63441	I02RA010	65776	I09RA010	65776	
102SYSNAM	I02SYSNAM	65776	I09RA010	65776	
74000	I02YSYSPAR	65776	I09RA010	65776	
INTERDPP	I04RA010	65776	I09RA010	65776	
76777	I07RA010	65776	I09RA010	65776	
INTERRANGE	I08RA010	65776	I09RA010	65776	
KYBROLEVEL	I09RA010	65776	I09RA010	65776	
LOCNUM	I09RA010	65776	I09RA010	65776	
00350	I09RA010	65776	I09RA010	65776	
MOREQ	I09RA010	65776	I09RA010	65776	

SPURT OUTPUT NO. 211

S.J. WHITE•06/23/64

DYDMPPGM

LABEL	LOC	LABEL	LOC	LABEL	LOC
MARKBUFF	00130	MAYBEO	00227	MCPFILLER	71000
MCPGM	63412	MESS1	00333	MESS2	00336
MESS3	00343	MILLSTNAD0	63451	MNRREG	63152
MSFRQ	63332	NOOUT	00273	NMPERAU	63340
POLE	63324	PERIO0AZIM	63523	PERIODEC	63525
PERIODELEV	63521	PERIOORA	63527	PL0TP	63436
PLANP	63434	PROG	00363	PREVIOUSTM	63461
PRINTOUT	00364	PRINTAREA	00365	PRLOG	63423
PUTOUT	00256	ROTATEAEBX	63507	ROTATERADN	63506
ROTATERDBX	63510	RA	63002	RAOFFSET	63514
RADOT	63007	RAOARMODE	63312	RADCBSSCAN	63503
RADECOTIME	63531	RADIODEC	63541	RAIOMETER	63102
RADIORA	63540	RADIUS	63006	RADIUSDOT	63011
RANGE	63052	RANGEOUT	70777	RANGEADD	63445
RANGEDOT	63062	RASCTNSCAN	63504	RDCTR	63430
RDXXX	63433	RECOROSIZE	63112	RECAZIM	67000
RECELEV	70000	RECFILE	63212	RECRO	63415
RECORDSWATCH	63155	RELEASESW	63156	SAVEA	00127
SAZIM	63055	SCLTIM	63134	SDEC	63005
SECONDS	63140	SELEV	63056	SETREG	00165
SIDERTIME	63012	SINORIENT	63064	SINAZEL	63066
SKIP	63331	SRA	63004	SRADTIME	63136
STOP	00313	STACK	00132	STKBUFF	00131
SYNTIMING	63542	SYSCOMMREG1	63452	SYSCOMMREG2	63453
SYSCOMMREG3	63454	SYSCOMMREG4	63455	SYSCOMMREGS	63456
SYSCOMMREG6	63457	SYSENTRIES	77600	SYSDAMES	77700
SYSTAT1	63313	SYSTAT2	63314	SYSTATD	63315
TIMECORR	63107	TIMEMODE	63103	TIMEP	63435
TIMETOHOLD	63520	TRUERANGE	63063	TRUETIME	63132
TTSTATUS	63111	TWOCFT	00126	TWOSECDP	63017
VELOFLIGHT	63335	VIZOEC1	63014	VIZOEC2	63016
VIZRA1	63013	VIZRA2	63015	WORDBLOCK	00105
WFORO	63432	WFADO	63450	WFREQ	63333
WHO510	00300	WHCOL	00321	YORN	00315
YEARMONTH	63147	YRTRAN	63327	ZRTRAN	63330

END OF LISTING

SPURT OUTPUT No. 212		S.J.WHITE*06/23/64	
LABEL	LOC	LABEL	LOC
OYOMPPGM	00000	OYOWORK	00002
CONTON	00026	MOREQ	00031
FILLBUFFJR	00063	GOLOG	00067
MORENROS	00101	WORBLOCK	00105
SAVEA	00127	MARKBUFF	00130
STACK	00132	OYOUNIT	00164
CONT1	00201	CONT2	00216
MAYBEO	00227	GOF0	00236
PUTOUT	00256	NOOUT	00273
STOP	00313	YORN	00315
WHCOL	00321	ASK	00325
MESS1	00333	MESS2	00336
ANS	00347	LOCNUM	00350
KOUTPUISW	00362	PROG	00363
PRINTAREA	00365	A\$S\$S\$1111	00420
IO2CELCOR	63001	RA	63002
SRA	63004	SOEC	63005
RAOOT	63007	OECOOT	63010
SIOERTIME	63012	VIZRA1	63013
VIZRA2	63015	VIZOEC2	63016
IO1RAOCOR	63050	IO2RAOCOR	63051
AZIM	63053	ELEV	63054
SELEV	63056	CRAANE0	63057
CELEV	63061	RANGE00T	63062
SINORIENT	63064	COSORIENT	63065
COSAZEL	63070	ACQAZIM	63071
FRAMESIZE	63101	RAIOMETER	63102
FIRSTTEV	63104	ASTRORA	63105
TIMECORR	63107	KYBROLEVEL	63110
RECOROIZE	63112	CELBOOY	63113
TO2TIME	63131	TRUETIME	63132
SCLETIME	63134	CONVERTIME	63135
HOURMINUTE	63137	SECONOS	63140
ACTUALTIME	63142	ESTSHIFTEO	63143
GMTMOU24	63145	BLASTOFF	63146
DAY	63150	HOURREG	63151
FIRSTHCU	63153	QUMSECTG	63154
RELEASESW	63156	TO1RECRO	63210
RECFILE	63212	TO1SYSPAR	63310
RAOARMODE	63312	SYSTAT1	63313
SYSTATO	63315	DELTATEE	63316
LONGITUDE	63320	GE00ETLAT	63321
EQUATOR	63323	POLE	63324
HEIGHT	63326	YRTRAN	63327
SKIP	63331	MSFREQ	63332
MAINSWITCH	63334	VELOFLIGHT	63335
FLATTENING	63337	NMPERAU	63340
KMPERNM	63342	EXPNAM	63350
TO2ENTPNT	63411	MCPGM	63412
COCON	63414	RECRO	63415
AESCN	63417	CORCT	63420

SPURT OUTPUT NID. 212  
S.J.WHITE\*06/23/64  
OYOMPPGM

LABEL	LOC	LABEL	LOC	LABEL	LOC
CHCOR	63422	PRLDG	63423	CELCDMPGM	63424
DATANALYZE	63425	INTERCDM	63426	AQUI	63427
RDMTR	63430	CHPAR	63431	WFDRD	63432
RDXXX	63433	PLANP	63434	TIMEP	63435
PLDTP	63436	ID1RADIO	63440	ID2RADIO	63441
AZIMADD	63442	ELEVADO	63443	DOPPELAD	63444
RANGEADD	63445	INAZIMADD	63446	INELEVADO	63447
WFAD0	63450	MILLSTNADD	63451	SYSCHDRG1	63452
SYSCDMREG2	63453	SYSCDMREG3	63454	SYSCMRG4	63455
SYSCDMREG5	63456	SYSCDMREG6	63457	INTERCLKSW	63460
PREVIOUSTM	63461	BDDYSIZE	63462	AZELBSCAN	63500
AZMTHSCAN	63501	ELVTSCAN	63502	RADCBSCAN	63503
RASCTNSCAN	63504	DECLINSCAN	63505	ROTATERADN	63506
ROTATEREBX	63507	ROTATERBX	63510	HDLNDHLD	63511
AZIMOFFSET	63512	ELEVOFFSET	63513	RAOFFSET	63514
DECOFFSET	63515	CROSSOFFSET	63516	ALNGOFFSET	63517
TIMETOHDLD	63520	PERIDDELEV	63521	ARCOFELV	63522
PERIOD21M	63523	ARCOFAZIM	63524	PERIODEC	63525
ARCOFDEC	63526	PERIODRA	63527	ARCOFRA	63530
RADECOTIME	63531	AZELDTIME	63532	RAOIDRA	63540
RADIODEC	63541	SYNTIMING	63542	ID3RADIO	63776
ID4RADIO	63777	AZIMDTU	64000	ID5RADIO	64776
ID6RADIO	64777	ELEVDTU	65000	ID7RADIO	65776
LOBRADID	65777	DOPPOUT	66000	ID9RADIO	66776
ID10RADIO	66777	RECAZIM	67000	ID11RADIO	67776
ID12RADIO	67777	RECELEV	70000	ID13RADIO	70775
ID14RADIO	70776	RANGEOUT	70777	MCPFILLER	71000
ID15RADIO	71776	1016RAOID	71777	INTERAZM	72000
ID17RADIO	72776	1018RAOID	72777	INTERELEV	73000
ID19RADIO	73776	1020RAOID	73777	INTERQOP	74000
ID21RADIO	74776	1022RADIO	74777	AZIMIN	75000
ID23RADIO	75776	1024RAOID	75777	ELEVIN	76000
ID25RADIO	76775	1026RAOID	76776	INTERRANGE	76777
IDISYSNT	77576	1028YSNT	77577	SYSENTRIES	77600
IDISYSNM	77676	1029SYSNM	77677	SYSNAMES	77700

END OF LISTING

CAROS		L1 IO LABEL	TA STATEMENT	SPURT	OUTPUT NO.	210	MATHIASSEN•04/20/65	NOTES
		C0000 FKAZEL	PROGRAM MATHIASSEN•04/20/65		00000	00002	00005	
*	*	0C001 FXANE	U-TAG MSTAR•ISTART		00001	13350	62312	AZ-EL
*	*	C0002	FO 1•FXANE					
*	*	00003	COMMENT ANTENNA					
*	*	C0004 MSTART	ENTRY RPL Y+1•L(MSTART)		00002	61000	00000	BUFFER LOOP FIXED PROGRAM
*	*	00005	EXIT		00003	36010	00002	
*	*	00006	COMMENT INITIALIZATION		00004	61010	00002	SECTION INITIALIZATION SECTION
*	*	C0007 ISTART	ENTRY RPL Y+1•L(ISTART)		00005	61000	00000	
*	*	00010 ISTART	EXIT A•U(KYBROLEVEL 1•AZERO		00006	36010	00005	NO WE USE CONSOLE TYPEWRITER
*	*	00011	ENT A•U(ELEVATOR)		00007	11420	63110	
*	*	00012	EXIT		00010	61010	00005	NO
*	*	0C013	ENT A•L(X(SYSTATI•ANEG		00011	11750	63313	SKIP IF NOT IN ANTENNA BUFFER MODE
*	*	00014						
*	*	00015	J.P HOLOUP		00012	61000	00024	KEYBOARD/TYPEWRITER COMMUNICATIONS
*	*	C0016	RJP U(INTERCOM)		00013	65020	63426	
*	*	00017	U-TAG QUESTION1•ANSWER1		00014	00106	00115	
*	*	00020	ENT A•W(LAZIMAOOR1		00015	11030	00221	AZIMUTH INPUT
*	*	C0021	RJP OEGTOREV		00016	65000	00062	
*	*	C0022	RJP U(INTERCOM1		00017	65020	63426	ELEVATION INPUT
*	*	00023	U-TAG QUESTION2•ANSWER2		00020	00121	00130	
*	*	00024	ENT A•W(ELEVATOR1		00021	11030	00222	
*	*	C0025	RJP OEGTOREV		00022	65000	00062	
*	*	00026	EXIT		00023	61010	00005	WHEN COMPUTER IS IN BUFFER MODE
*	*	C0027	COMMENT INITIALIZATION					E KEYBOARD/TYPEWRITER COMMUNICATIONS
*	*	00030 HOLOUP	RJP U(INTERCOM1		00024	65020	63426	
*	*	C0031	U-TAG QUESTION3•0		00025	00134	00000	
*	*	00032	RJP U(INTERCOM1		00026	65020	63426	
*	*	C0033	U-TAG QUESTION4•0		00027	00151	00000	
*	*	C0034	RJP U(INTERCOM1		00030	65020	63426	
*	*	00035	U-TAG MORON•0		00031	00164	00000	
*	*	00036 HCLOUP2	RJP U(INTERCOM1		00032	65020	63426	
*	*	C0037	O ANSWER3		00033	00000	00147	MASK FOR CHARACTER INPUT
*	*	C0040	ENT Q•7700000000		00034	10030	00226	SPACES FOR REMAINING 4 CHARACTERS
*	*	00041	ENT A•05050505		00035	11030	00227	SET LAST 4 CHAR. OF INPUT WORD TO SPACES
*	*	C0042	RPL A+LP•W(CHOICE1•APPOS		00036	45630	00220	TO SPACES
*	*	C0043	J.P ERROR		00037	61000	00057	ERROR IF FIRST CHARACTER NOT L
*	*	C0044	STR A•Q		00040	15000	00000	ETTER
*	*	00045	SUB A•W(LA)•AND		00041	21530	00216	
*	*	C0046	JP ACCEPTAZIM		00042	61000	00052	
*	*	00047	SUB Q•W(E1•QZERO		00043	27430	00217	
*	*	C0050	JP ERROR		00044	61000	00057	
*	*	C0051	RJP U(INTERCOM1		00045	65020	63426	
*	*	C0052	O ANSWER2		00046	00000	00130	
*	*	C0053	ENT A•W(ELEVATOR1		00047	11030	00222	
*	*	C0054	RJP OEGTOREV		00050	65000	00062	

SPURT OUTPUT NO. 210  
MATHIASEN•04/20/65

CARD	L1 TO LABEL	TA STATEMENT	LOC	F JKBY	NOTES
	C0055	JP HOLQUP2	00051	61000	00032
	C0056	RJP UINTERCOM1	00052	65020	63426
	C0057	O ANSWER1	00053	00000	00115
	C0060	ENT A•WIAZIMAOOR1	00054	11030	00221
	C0061	RJP OEGTORYF	00055	65000	00062
	C0062	JP HOLQUP2	00056	61000	00032
	C0063	RJP UINTERCOM1	00057	65020	63426
	C0064	U-TAG QUESTIONS	00060	00202	00000
	C0065	JP HOLQUP2	00061	61000	00032
	C0066	DEGTOREV	00062	61000	00000
	C0067	STR A•L(OESTINY)	00063	15010	00102
	C0070	RSH A•150	00064	02000	00017
	C0071	STR A•L(OIVIOENO)	00065	15010	00070
	C0072	STR A•L(SIGNCHECK)	00066	15010	00100
	C0073	CL A*	00067	11000	00000
	C0074	ENT Q•W(01•QPOS	00070	10230	00000
	C0075	A•W(0360B201•QNEG	00071	26730	00104
	C0076	JP \$+2	00072	61000	00074
	C0077	JP \$-2	00073	61000	00071
	C0100	LSH AQ•7	00074	07000	00007
	C0101	OIV 3600	00075	23000	00550
	C0102	SUB A•B00•ANE G	00076	21700	00264
	C0103	A00 Q*1	00077	26000	00001
	C0104	SIGNCHECK ENT A•W(01•APOS	00100	11630	00000
	C0105	SUB Q•W(REV1B271	00101	27030	00105
	C0106	STR Q•W(01	00102	14030	00000
	C0107	EXIT 2640000000	00103	61010	00062
	C0110	0360B20	00104	26400	00000
	C0111	REV1B27 1000000000	00105	10000	00000
	C0112	FO 1•A	00106	06050	50505
	C0113	-0 STATEMENT1	00107	77777	00110
	C0114	FO 4•AZIMUTH (DEGREES)	00110	06371	62232
	C0115	-0	00111	31150	55111
	C0116	FO 1•X20	00112	12142	71212
	C0117	10 AZIMUTH	00113	30400	50505
	C0120	0000000000	00114	77777	77777
	C0121	2640000000	00115	35622	40505
	C0122	QUESTION2 FO 1•A	00116	00010	00223
	C0123	-0 STATEMENT2	00117	00000	00000
	C0124	FO 4•ELEVATION (DEGREES)	00120	26400	00000
		STATEMENT2	00121	06050	50505
		STATEMENT2	00122	77777	00123
		STATEMENT2	00123	12211	23306
		STATEMENT2	00124	31162	42305
			00125	51111	24227
			00126	12123	04005

SPURT OUTPUT NO. 210  
MATHIASSEN-O4/20/65

CAROS	L1 TO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	00125	-0 FO 1*X20	00127	77777	77777		
	00126 ANSWER2	10 ELEVATION	00130	35622	40505		
	00127	0000000000	00131	00010	00224		
	00130	0550000000	00132	00000	00000	OEC	0820
	00131		00133	05000	00000	OEC	90*820
	00132 QUESTION3	1*A	00134	06050	50505		
	00133	-0 STATEMENT3	00135	77777	00136		
	00134 STATEMENT3	FO BO*AZIMUTH (DEGREES) PREFIXING WITH 00136	00137	31150	55111		
		A, OR	00140	12142	71212		
			00141	30400	52527		
			00142	12131	63516		
			00143	23140	53416		
			00144	31150	50656		
			00145	05242	70505		
			00146	77777	77777		
			00147	21610	50505		
	00136 ANSWER3	FO 1*L1	00150	00001	00220		
	00137	01 CHOICE	00151	06050	50505		
	00140 QUESTION4	1*A	00152	77777	00153		
	00141	-0 STATEMENT4	00153	12211	23306		
	00142 STATEMENT4	FO BO*ELEVATION (DEGREES) PREFIXING W/00153	00154	31162	42305		
		TH E.	00155	51111	21427		
			00156	12123	04005		
			00157	25271	21316		
			00160	35162	31405		
			00161	34163	11505		
			00162	12750	50505		
			00163	77777	77777		
			00164	06050	50505		
			00165	77777	00166		
			00166	06051	00627		
			00167	27160	61412		
			00170	05271	23132		
			00171	272230	51630		
			00172	05231	21012		
			00173	30300	62736		
			00174	0506	33112		
			00175	27052	52712		
			00176	13163	51211		
			00177	05211	23131		
			00200	12277	50505		
			00201	77777	77777		
			00202	06050	50505		
			00203	77777	00204		
			00204	36243	20515		
			00205	06331	20531		
			00206	36251	21105		
			00207	16212	11214		

SPURT OUTPUT NO. 210  
 MATHIASEN•04/20/65

CAROS	L1 TO LABEL	TA STATEMENT	FXAZEL	LOC	F	JKB	Y	NOTES
				00210	06210	52527		
				00211	12131	63575		
				00212	05053	12736		
				00213	05061	40616		
				00214	23750	50505		
				00215	77777	77777		
				00216	06050	50505		
				00217	12050	50505		
				00220	00000	00000	CONTAINS A FOR AZIMUTH OR E FO R ELEVATION	
				00221	00223	63053		
				00222	00224	63054		
				00223	00000	00000	OEC      OB20	RE
				00224	00000	00000	QUESTED AZIMUTH IN O OEC      OB20	RE
				00225	00000	00000	QUESTED ELEVATION IN	
				00226	77000	00000		
				00227	00050	50505		

U-TAG      AZIMUTH=AZIM  
 U-TAG      ELEVATION=ELEV  
 0000000000

00157 AZIMAOOR  
 00160 ELEVAOOR  
 OC161 AZIMUTH

00162 ELEVATION  
 OC163 RESERVE 1

END OF LISTING

SPURT OUTPUT NO. 211					
MATHIASSEN•OU/20/65					
	FXAEL	LOC	LABEL	LOC	LABEL
A	00216		\$\$\$\$\$\$1111	00226	\$\$\$\$\$11112
ACCEPTAZIM	00052		ACQAZIM	63071	ACQELEV
ACQUI	63427		ACTUALTIME	63142	AOSCN
AESCN	63417		ALNGOFFSET	63517	ANSWER1
ANSWER2	00130		ANSWER3	00147	ARCOFAZIM
ARCOFDEC	63526		ARCOFELEV	63522	ARCOFRA
ASTRODEC	63106		ASTRORA	63105	AUPEREQUAT
AZELOTIME	63532		AZELBXS CAN	63500	AZIM
AZIMOFFSET	63512		AZIMOUT	64000	AZIMOVER
AZIMADD	63442		AZIMAODR	00221	AZIMIN
AZIMUTH	00223		AZMHS CAN	63501	BODYSIZE
BLASTOFF	63146		COCON	63414	CONVERTIME
CORCT	63420		COSORIEN	63065	COSAZEL
CAZIM	63060		CELBODY	63113	CELCOMP GM
CELEV	63061		CELTIME	63133	CHOICE
CHCOR	63422		CHPAR	63431	CRANGE
CRSSOFFSET	63516		OPPOUT	66000	OOPPADO
D360B20	00104		DATANALYZE	63425	DAY
DEC	63003		DECOFFSET	63515	DECOOT
DECLINSCAN	63505		DEGTOREV	00062	DELTAEE
DESTINY	00102		DIVIDENO	00070	OSECONDS
DUMSECTIG	63154		DYDAP	63421	E
ELEV	63054		ELEVOFFSET	63513	ELEVOUT
ELEVADD	63443		ELEVADDR	00222	ELEVATION
ELEVIN	76000		ELYTN SCAN	63502	EQUATOR
ERROR	00057		ESTSHIFTEO	63143	EXPNAM E
FIRSTELEV	63104		FIRSTTHRU	63153	FLATTENING
FRAMESIZE	63101		FREQUENCY	63317	FXANE
GEOCENLAT	63322		GEODETLAT	63321	GMTMODU24
GMTSHIFTED	63144		HOLDNOHOLD	63511	HOLDUP
HOLDUP2	00032		HOURMINUTE	63137	HOURREG
HEIGHT	63326		OTORADIO	66777	ID12RADIO
ID12RADIO	67777		ID13RADIO	70775	ID14RADIO
ID15RADIO	71776		ID16RADIO	71777	ID17RAD O
ID18RADIO	72777		ID19RADIO	73776	ID20RAD O
ID1ENTPNT	63410		ID1RADCOR	63050	ID1RADIO
ID1RECORD	63210		ID1SYSENT	77576	ID1SYSNAM
ID1SYSNAM	63310		ID1TIME	63130	ID2RAD O
ID21RADIO	74776		ID22RADIO	74777	ID23RAD O
ID24RADIO	75777		ID25RADIO	76775	ID26RAD O
ID2CEL COR	63001		ID2ENTPNT	63411	ID2RADCOR
ID2RAD O	63441		ID2RECRD	63211	ID2SYSENT
ID2SYSNAM	77677		ID2SYS PAR	63311	ID2TIME
ID3RAD O	63776		ID4RAD O	63777	ID5RAD O
ID6RAD O	64777		ID7RAD O	65776	ID8RAD O
ID9RAD O	66776		ID10	00166	INAZIMADD
INELEVADD	63447		INTER	63413	INTERAZIM
INTERCOM	63426		INTERDOPP	74000	INTERELV
INTERLOCK SW	63460		INTERRANGE	76777	ISTART
KPERNM	63342		KYBROLEVEL	63110	LONGITUDE
LSPERAU	63336		MORON	00164	MAINSWITCH

SPURT OUTPUT NO. 211

FAZEL

MATHIASSEN 04/20/65

LABEL	LOC	LABEL	LOC	LABEL	LOC
MCPFILLER	71000	MCPGM	63412	MILLSTNAOO	63451
MINREG	63152	MSFREQ	63332	START	00002
NMPERAU	633540	POLE	63324	PERIODAZIM	63523
PERIODDEC	63525	PERIOELEV	63521	PERIORA	63527
PLOT	63436	PLANP	63434	PREVIOUSTM	63461
PRLOG	63423	QUESTION1	00106	QUESTION2	00121
QUESTION3	00134	QUESTION4	00151	QUESTIONS	00202
ROTATFAEBX	63507	ROTATERAON	63506	ROTATERBX	63510
RA	63002	RAOFFSET	63514	RAOOT	63007
RAOARMODE	63312	RAOCBSCAN	63503	RADECOTIME	63531
RAOIODEC	63541	RADIOMETER	63102	RAOIDRA	63540
RAOIUS	63006	RAOIUSOOT	63011	RANGE	63052
RANGEOUT	70777	RANGEAD00	63445	RANGEQ0T	63062
RASCTNSCAN	63504	ROMTR	63430	ROXXX	63433
RECORDOSIZF	63112	RECAZIM	67000	RECELEV	70000
RECFILE	63212	RECRO	63415	RECSWITCH	63155
RELEASESW	63156	REV1B27	00105	SАЗИМ	63055
SCELTIME	63134	SOEC	63005	SECONOS	63140
SELEV	63056	SIOERTIME	63012	SIGNCHECK	00100
SINORIENT	63064	SINAZEL	63066	SKIP	63331
SRA	63004	SRAOTIME	63136	STATEMENT1	00110
STATEMENT2	00123	STATEMENT3	00136	STATEMENT4	00153
STATEMENTS	00204	SYNCTIMING	63542	SYSCOMREG1	63452
SYSCOMREG2	63453	SYSCOMREG3	63454	SYSCOMREG4	63455
SYSCOMREG5	63456	SYSCOMREG6	63457	SYSNTRIES	77600
SYSTNAME5	77700	SYSTAT1	63313	SYSTAT2	63314
SYSTATO	63315	TIMECORR	63107	TIMEMOE	63103
TIMEP	63435	TIMETOHOL0	63520	TRUERANGE	63063
TRUE TIME	63132	TTYSTATUS	63111	TWOSECOP	63017
VELOFLIGHT	63335	VIZOEC1	63014	VIZOEC2	63016
VIZRA1	63013	VIZRA2	63015	WFORD	63432
WF400	63450	WFREQ	63333	YEARMONTH	63147
YRTRAN	633327	ZRTRAN	633330		

END OF LISTING

SPURT OUTPUT NO. 212

MATHIASSEN 04/20/65

F A Z E L	LABEL	LOC	LABEL	LOC	LABEL	LOC
FXANE	00000	MSTART	00002	ISTART	00005	
HOLDUP	00024	HOLDUP2	00032	ACCEPTAIM	00052	
ERROR	00057	OEGTOREV	00062	DIVISION0	00070	
SIGNCHECK	00100	DESTINY	00102	D360B20	00104	
REVIB27	00105	QUESTION1	00106	STATEMENT1	00110	
ANSWER1	00115	QUESTION2	00121	STATEMENT2	00123	
ANSWER2	00130	QUESTION3	00134	STATEMENT3	00136	
ANSWER3	00147	QUESTION4	00151	STATEMENT4	00153	
MORON	00164	IDIOT	00166	QUESTIONS	00202	
STATEMENTS	00204	A	00216	E	00217	
CHOICE	00220	AZIMAOOR	00221	ELEVATOR	00222	
AZIMUTH	00223	ELEVATION	00224	ASSASSIN111	00226	
A\$\$\$\$\$112	00227	101CELLCOR	03001	TO2CELLCOR	63001	
RA	63002	OEC	63003	SRA	63004	
SDEC	63005	RADIUS	63006	RAOOT	63007	
DECOOT	63010	RADIUS00T	63011	SIDERTIME	63012	
VIZRA1	63013	VIZOEC1	63014	VIZRA2.	63015	
VIZOEC2	63016	TWOSECOP	63017	101RAOCOR	63050	
102RAOCOR	63051	RANGE	63052	AZIM	63053	
ELEV	63054	SAZIM	63055	CELEV	63056	
CRANGE	63057	CAZIM	63060	SINORIENT	63064	
RANGE00T	63062	TRUE RANGE	63063	COSAZEL	63070	
COSORIENT	63065	SINAZEL	63066	FRAMESIZE	63101	
ACQAZIM	63071	ACQELEV	63075	FIRSTELEV	63104	
RAOTOMETER	63102	TIME00E	63103	TIMECORR	63107	
ASTRORA	63105	ASTRO0EC	63106	RECORDSIZE	63112	
KYBROLEVEL	63110	TTSTATUS	63111	TO2TIME	63131	
CELBOOV	63113	TOITIME	63130	SCETIME	63134	
TRUE TIME	63132	CELTIME	63133	HOURMINUTE	63137	
CONVERTTIME	63135	SRATIME	63136	ACTUAL TIME	63142	
SECONOS	63140	OSECONOS	63141	GMTMOOU24	63145	
ESTSHIFTED0	63143	GMTSHIFTEO	63144	DAY	63150	
BLASTOFF	63146	YEARMONTH	63147	FIRSTTHRU	63153	
HOURREG	63151	MINREG	63152	RELEASESM	63156	
QUMSECTTG	63154	RECROSWTCH	63155	RECFILE	63212	
101RECORD	63210	102RECRO	63211	RAARMODE	63312	
101SYSPAR	63310	102SYSPAR	63311	SYSTAT0	63315	
SYSTAT1	63313	SYSTAT2	63314	LONGITUDE	63320	
DELTATEE	63316	FREQUENCY	63317	EQUATOR	63323	
GEODETLAT	63321	GEODENLAT	63322	HEIGHT	63326	
POLE	63324	AZIMOVER	63325	SKIP	63331	
YRTRAN	63327	ZRTRAN	63330	MAINSWITCH	63334	
MSFREQ	63332	WFREQ	63333	FLATTENING	63337	
VELOFLIGHT	63335	LSPERAU	63336	KMPERNM	63342	
NMPERAU	63340	AUPEREQUAT	63341	TO2ENTPN1	63411	
EXPNAME	63350	TOENTPN1	63410	COCON	63414	
MCPGM	63412	INTER	63413	AESCN	63417	
RECRD	63415	AOSCN	63416	CHCOR	63422	
CORCT	63420	OYOMP	63421	DATANALYZE	63425	
PRLOG	63423	CELCOMPGM	63424	RDCTR	63426	
INTERCOM	63426	ACQUI	63427			

SPURT OUTPUT ND. 212

FXAZEL

MATHIASEN\*04/2D/65

LABEL	LOC	LABEL	LOC	LABEL	LOC
CHPAR	63431	WFDRD	63432	RDXXX	63433
PLANP	63434	TIMEP	63435	PLOT	63436
IDIRADID	63440	ID2RADID	63441	AZIMADD	63442
ELEVADD	63443	DOPPADD	63444	RANGEADD	63445
INAZIMADD	63446	INELEVADD	63447	WFADD	63450
MILLSTNADD	63449	SYSCDMREG1	63451	SYSCDMREG2	63453
SYSCDMREG3	63454	SYSCDMREG4	63452	SYSCOMREGS	63456
SYSCDMREG6	63457	INTERCLKSW	63455	PREVIDUSTH	63461
BODYSIZE	63462	AZELBXSCAN	63500	RASCTNSCAN	63501
ELVLTNSCAN	63502	RADCBXSCAN	63503	RDTATEABX	63507
DECLINSCAN	63505	RDATERADN	63506	AZIMOFFSET	63512
ROTATERDBX	63510	HDLDNOHOLD	63511	DECOFFSET	63515
ELEVOFFSET	63513	RADOFFSET	63514	TIMEOFFSET	63520
CROSSDFSET	63516	ALNGDFSET	63517	PERIDDAZIM	63523
PERIDDELEV	63521	ARCFDFELEV	63522	ARCFDFDEC	63526
ARCFDFAZIM	63524	PERIODDEC	63525	RADEDCTIME	63531
PERIDDRA	63527	ARCFDFRA	63530	RADIIDEC	63541
AZELDTIME	63532	RADIIDRA	63540	ID4RADIO	63777
SYNCTIMING	63542	ID3RADIO	63776	ID5RADIO	64777
AZIMDUT	64000	ID5RADID	64776	ID7RADIO	65777
ELEVDT	65000	ID7RADID	65776	ID9RADID	66777
DOPPDUT	66000	ID9RADID	66776	ID11RADID	67776
RECZIM	67000	ID11RADID	67776	ID13RADID	70775
RECELEV	70000	ID13RADID	70775	ID14RADID	70776
RANGEOUT	7D777	MCPFILLER	71000	ID15RADID	71776
ID16RADID	71777	INTERAZIM	72000	ID17RADID	72776
ID18RADID	72777	INTERELEV	73000	ID19RADID	73776
ID22RADID	73777	INTERDPP	74000	ID21RADID	74776
ID22RADID	74777	AZIMIN	75000	ID23RADID	75776
ID24RADID	75777	ELVIN	76000	ID25RADIO	76775
ID26RADID	76776	INTERRANGE	76777	IDISYSENT	77576
ID2SYSENT	77777	SYSENTRIES	77600	IDISYSNAM	77676
ID2SYSNAM	77677	SYSNAMES	77700		

END OF LISTING

CAROS	L1 IO LABEL	TA STATEMENT	SPURT	OUTPUT NO.	210	MATHIASEN#2/17/65	LOC	F	JKB	Y	NOTES
	C0000 FXRAOEC	PROGRAM MATHIASEN#2/17/65		00000	00002	00005					
	C0001 FXRAOEC	U-TAG MSTART*I START		00001	13270	61110	BUFFER LOOP FIXED				R T. ASCE
	C0002	FO 1*FXRAOC					NSION-OECLINATION PGM				
	C0003	COMMENT ANTENNA									
	CC004 MSTART	ENTRY RPL Y+1*L(MSTART)		00002	61000	00000					
	C0005	EXIT		00003	36010	00002	INDEX RETURN POINT				
	C0006	COMMENT INITIALIZATION		00004	61010	00002					
	CC007 ISTART	ENTRY RPL Y+1*L(I START)		00005	61000	00000	SECTION INITIALIZATION SECTION				
	C0011	EXIT A*U(KYBROLEVEL)*AZERO		00006	36010	00005					
	C0012	ENT A*U(KYBROLEVEL)*AZERO		00007	61420	63110	00 WE USE CONSOLE TYPEWRITER				
	C0013	EXIT		00010	61010	00005	NO				
	CC014	ENT A*LX(SYSTATT)*ANEG		00011	61750	63313	SKIP IF NOT IN ANTENNA BUFFER MODE				
	C0015	JP HOLOUP		00012	61000	00026					
	C0016	CL B3*		00013	12300	00000					
	C0017 NEXTQUERY	ENT A*B3		00014	11003	00000					
	C0020	LSH A*1		00015	06000	00001					
	C0021	A00 A*QUESTION1		00016	20000	00233					
	C0022	STR A*U(QUESTMARK)		00017	15020	00021					
	C0023	U(INTERCOM)		00020	65020	63426					
	CC024 QUESTMARK	RJP 0 0		00021	00000	00000					
	C0025	RJP L(WHITHER+B3)		00022	65013	00072					
	C0026	BSK B3*5		00023	71300	00005					
	CC027	JP NEXTQUERY		00024	61000	00014					
	C0030	EXIT		00025	61010	00005					
	C0031	COMMENT INITIALIZATION					WHEN COMPUTER IS IN BUFFER MOOE				
	CC032 HOLOUP	RJP U(INTERCOM)		00026	65020	63426	KEYBOARD/TYPEWRITER COMMUNICATIONS				
	C0033	U-TAG QUESTION3*0		00027	03314	00000					
	CC034	RJP U(INTERCOM)		00030	65020	63426					
	CC035	U-TAG QUESTION4*0		00031	00330	00000					
	C0036	RJP U(INTERCOM)		00032	65020	63426					
	C0037	U-TAG QUESTION6*0		00033	00357	00000					
	C0040	RJP U(INTERCOM)		00034	65020	63426					
	C0041	U-TAG QUESTION7*0		00035	00372	00000					
	CC042	RJP U(INTERCOM)		00036	65020	63426					
	CC043	U-TAG QUESTION8*0		00037	00405	00000					
	CC044	RJP U(INTERCOM)		00040	65020	63426					
	C0045	U-TAG QUESTION9*0		00041	00421	00000					
	CC046	RJP U(INTERCOM)		00042	65020	63426					
	C0047	U-TAG MORON*0		00043	00434	00000					
	CC050	RJP U(INTERCOM)		00044	65020	63426					
	CC051	ANSWER3		00045	00000	00465					
	CC052	ENT Q#7700000000		00046	10030	00034	MASK FOR CHARACTER INPUT SPACES FOR REMAINING 4 CHARACTERS				
	CC053	ENT A*05050505		00047	11030	00035					
	CC054	RPL A+L*W(CHOICE)*APPOS		00050	45630	00467	SET LAST 4 CHAR. OF INPUT WORD TO SPACES				
	CC055	JP ERROR		00051	61000	00230	ERROR IF FIRST CHARACTER NOT LETTER				

\*\*\*\*\* SPURT OUTPUT NO. 210  
 \*\*\*\*\* FXRADEC  
 \*\*\*\*\* MATHIASSEN 2/17/65

CARDS	L1 ID	LABEL	TA STATEMENT	LOC	F	J	K	B	Y	NOTES
	CC056		CL B3*	00052	12300	00000				
*	CC057	NEXTLETTER	ENT A•W(CHOICE)	00053	11030	00467				
*	CC060		SUB A•W(IFDA+B3)*ANOT	00054	21533	00063				
*	CC061		JP ACCEPTA00	00055	61000	00061				
*	CC062		BSK B3*6	00056	71300	00006				
*	CC063		JP NEXTLETTER	00057	61000	00053				
*	00064		JP ERROR	00060	61000	00230				
*	00065	ACCEPTA00	RJP LIWHITHER+B3)	00061	65013	00072				
*	00066		JP HOLDUP2	00062	61000	00044				
*	00067	FOA	FD 1•A	00063	06050	50505				
*	CC070		FD 1•D	00064	11050	50505				
*	00071		FD 1•R	00065	27050	50505				
*	00072		FD 1•B	00066	07050	50505				
*	00073		FO 1•E	00067	12050	50505				
*	00074		FO 1•S	00070	30050	50505				
*	00075		FD 1•N	00071	23050	50505				
*	00076	WHITHER	O ACCEPTRA	00072	00000	00103				
*	00077		O ACCEPTDEC	00073	00000	00112				
*	CC100		O ACCEPTRHO	00074	00000	00134				
*	00101		O ACCRAOOT	00075	00000	00142				
*	00102		O ACCDEC00T	00076	00000	00155				
*	00103		O ACCRHODOT	00077	00000	00164				
*	00104		O NOMORE	00100	00000	00101				
*	00105	NOMORE	ENTRY JP LISTART)	00101	61000	00000				
*	00106		ENTRY RJP U(INTERCOM)	00102	61010	00005				
*	00107	ACCEPTRA	00103	61000	00000					
*	00110		RJP U(INTERCOM)	00104	65020	63426	RIGHT ASCENSION INPUT IN DEGREES	E5		
*	00111		O ANSWER 1	00105	00000	00452				
*	00112		ENT A•WRAADDR	00106	11030	00111				
*	00113		RJP OEGTOREV	00107	65000	00172	CONVERT TO REVOLUTIONS AND STD RE			
*	00114		EXIT U-TAG	00110	61010	00103				
*	00115	RAADDR	RIGHTASC•RA	00111	00456	63002				
*	00116	ACCEPTDEC	ENTRY U(INTERCOM)	00112	51000	00000				
*	00117		RJP U(INTERCOM)	00113	65020	63426	DECLINATION INPUT IN DEGREES			
*	00120		O ANSWER 2	00114	00000	00460				
*	00121		ENT A•W(OECA00R)	00115	11030	00131				
*	00122		RJP OEGTOREV	00116	65000	00172	CONVERT TO REVOLUTIONS AND STD RE			
*	CC123		MUL W(TWOP1)	00117	22030	00132	RAOIANS B23			
*	00124		LSH A•3	00120	06000	00003	B26			
*	00125		ENT Q•260	00121	10000	00032				
*	00126		RJP COS	00122	65000	00514	COS(DECLINATION) B2B			
*	00127		STR A•W(COSOEC)	00123	15030	00133				
*	00130		ENT Q•W(PURERAOOT)	00124	10030	00154	D(ALPHA)/OT B37,RAOIANS/SEC			
*	00131		MUL W(COSOEC)	00125	22030	00133	(O(ALPHA)/DT\$COS(DEC) B65			
*	00132		LSH A•2	00126	06000	00002	B37			
*	00133		STR A•W(RAD0T)	00127	15030	63007				
*	00134		EXIT U-TAG DECLIN•DEC	00130	61010	00112				
*	00135	OECA00R	3110375523	00131	00464	63003	DECLINATION INPUT AND OUTPUT			
*	00136	TWOP1		00132	31103	75523	OEC 6.2831853826	2		

\*\*\*\*\* SPURT OUTPUT NO. 210 MATHIASEN#2/17/65 \*\*\*\*\*  
 FXRAOEC  
 CAROS L1 TO LABEL TA STATEMENT LOC F JKBY NOTES  
 \* C0137 COSOEC 2000000000 00133 20000 00000 P1 OEC 1-B28 CO  
 \* 00140 ACCEPTRHO ENTRY RJP U(INTERCOM) 00134 61000 00000 SLOECLINATION  
 \* 00141 RJP U(INTERCOM) 00135 65020 63426 RADIUS INPUT IN NAUTICAL MILES  
 OR A.U.  
 \* 00142 0 ANSWER4 00136 00000 00470  
 \* 00143 ENT A\*W(MYRAOITUS) 00137 11030 00474  
 STR A\*W(RADIUS)  
 \* 00144 EXIT 00140 15030 63006  
 \* 00145 ENTRY 00141 61010 00134  
 RJP U(INTERCOM) 00142 61000 00000  
 \* 00146 ACCRAOOT 00143 65020 63426 O(ALPHA)1/OT INPUT IN DEGREES/S  
 \* 00147 0 ANSWERS 00144 00000 00475 EC  
 ENT A\*W(RAOTTAOOR)  
 RJP OEGTORAO 00145 11030 00153 CONVERT TO RAOIANS/SEC AND STO  
 RE  
 \* 00150 0 ANSWER5 00146 65000 00216  
 ENT A\*W(RAOTTAOOR) 00147 22030 00133  
 RJP OEGTORAO 00150 06000 00002 O(ALPHA)1/OT\*COS(OEC)1 B65  
 \* 00151 MUL W(COSOEC) 00151 15030 63007 B37  
 LSH A\*2  
 STR A\*W(RAOOT)  
 \* 00152 EXIT 00152 61010 00142  
 U-TAG MYRAOOT\*PURERAOOT 00153 00501 00154  
 \* 00153 00154 00000 00000 OEC 0-B37  
 00154 00155 61000 00000 ALPHA)/OT. RAOIANS/S  
 00155 00156 65020 63426 O(OELTA)/OT INPUT IN DEGREES/SEC  
 \* 00156 00157 00000 00502  
 00157 00160 11030 00163 CONVERT TO RAOIANS/SEC AND STO  
 RE  
 \* 00161 ACCOECDOT 00161 65000 00216  
 00162 ENTRY RJP U(INTERCOM) 00162 61010 00155  
 \* 00163 0 ANSWER6 00162 00506 63010 O(OELTA)/OT INPUT AND OUTPUT  
 ENT A\*W(OECOOTTAOOR) 00163 05006 63010  
 RJP OEGTORAO 00164 61000 00000  
 \* 00164 00164 00000 00507  
 00165 00165 65020 63426 O(RHO)1/OT INPUT IN N.M./SEC  
 \* 00166 00166 00000 00507  
 00167 00167 11030 00513  
 00168 00168 65030 63011  
 00169 00169 61010 00164  
 00170 00170 61000 00000  
 00171 00171 61010 00164  
 00172 00172 61000 00000  
 00173 00173 15010 00212 ADDRESS OF ANGLE IN REVOLUTION  
 00174 00174 02000 00017  
 00175 15010 00200 ADDRESSES OF INPUT ANGLE IN OEGR  
 \* 00176 15010 00210  
 00177 11000 00000 SET A TO 0  
 00178 10000 00000 IS DIVIDEND POSITIVE  
 00200 10230 00000 NO. ADD 360 DEGREES. IS IT P  
 00201 26730 00214  
 00202 61000 00204  
 00203 61000 00201  
 00204 07000 00007 DEGREES B27  
 \* 00205 J P \$+2  
 \* 00206 J P \$-2  
 \* 00207 L SH AQ\*7

CAROS	L1 TO LABEL	TA STATEMENT	SPURT	OUTPUT NO. 210 MATHIASSEN•2/17/65	LOC	F JKB Y	NOTES
	00211	0IV 3600	00205	23000 00550	REVOLUTIONS B27		
*	00212	SUB A*1800*ANEG	00206	21700 00264	IS REMAINDER GREATER THAN OIV		
*	00213	A00 Q*1	00207	26000 00001	SQR/2 YES. ROUND OFF QUOTIENT.		
*	00214 SIGNCHECK	ENT A*W(0)*APOS	00210	11630 00000	WAS ORIGINAL OIV TO ENO NEGATIVE		
*	00215	SUB Q*W(REV1B27)	00211	27030 00215	YES. MAKE QUOTIENT NEGATIVE		
*	00216 DESTINY	STR Q*W(0)	00212	14030 00000	STORE REVOLUTIONS B27		
*	00217	EXIT	00213	61010 00172			
*	00220 0360820	2640000000	00214	26400 00000	DEC 360.820		
*	00221 REVIB27	1000000000	00215	10000 00000	DEC 1.827		
*	00222 DEGTORAO	ENTRY	00216	61000 00000	CONVERT DEGREES/SEC TO RAOIANS /SEC.		
*	00223	STR A*L(FATE)	00217	15010 00225			
*	00224	RSH A*150	00220	02000 00017			
*	00225	STR A*L(WHENCE)	00221	15010 00222			
*	00226 WHENCE	ENT Q*W(0)	00222	10030 00000	( $\theta$ )TA)/OT B29 DEGREES/SEC		
*	00227	MUL W(OEGRAO)	00223	22030 00227	RAOIANS PER DEGREE B34		
*	00230	LSH AQ*4	00224	07000 00004			
*	00231 FATE	STR A*W(0)	00225	15030 00000	( $\theta$ )TA)/OT 837 RAOIANS/SEC		
*	00232	EXIT	00226	61010 00216			
*	00233 DEGRAO	2167643242	00227	21676 43242	.0174532925 834		
*	00234 ERROR	RJP U(INTERCOM)	00230	65020 63426			
*	00235	U-TAG QUESTIONS	00231	00343 00000			
*	00236	U-HOLOUP2	00232	61000 00044			
*	00237 QUESTION1	FO I*A	00233	06050 50505			
*	00240	-0 STATEMENT1	00234	77777 00247			
*	00241	FO I*A	00235	06050 50505			
*	00242	-0 STATEMENT2	00236	77777 00255			
*	00243	FO I*A	00237	06050 50505			
*	00244	-0 STATE1	00240	77777 00263			
*	00245	FO I*A	00241	06050 50505			
*	00246	-0 STATE2	00242	77777 00270			
*	00247	FO I*A	00243	06050 50505			
*	00250	-0 STATE3	00244	77777 00276			
*	00251	FO I*A	00245	06050 50505			
*	00252	-0 STATE4	00246	77777 00304			
*	00253 STATEMENT1	FO 5*RIGHT ASCENSION (DEGREES)	00247	27161 41531			
*	00254	-0 S*OECLINATION (DEGREES)	00250	05063 01012			
*	00255 STATEMENT2	FO	00251	23301 62423			
*	00256	-0 4*RAOIUS ( EARTH RAOII )	00252	05511 11214			
*	00257 STATE1	FO	00253	27121 23040			
*			00254	77777 77777			
*			00255	11121 02116			
*			00256	23063 11624			
*			00257	23055 1112			
*			00260	14271 21230			
*			00261	40050 50505			
*			00262	77777 77777			
*			00263	27061 11632			
*			00264	30055 11206			
*			00265	27311 50527			
*			00266	06111 61640			

***** FXRADEC *****				SPURT	OUTPUT NO. 210	MATHIASEN#2/17/65
CAROS	L1 TO LABEL	TA STATEMENT		LOC	F JK8 Y	NOTES
:	CC260	-0	5*R.A. 00T (OEGREES/SEC)	00267	777777 777777	
:	00261 STATE2	FO		00270	27750 67505	
:				00271	11243 10551	
:	00262	-0	5*OEC. 00T (OEGREES/SEC)	00272	11121 42712	
:	00263 STATE3	FO		00273	12307 43012	
:				00274	10400 50505	
:	OC264	-0	7*RAO1US 00T (NAUTICAL MILES/SEC)	00275	777777 777777	
:	00265 STATE4	FO		00276	11121 07505	
:				00277	11243 10551	
:	00266	-0		00300	11121 42712	
:	00267 QUESTION3	FO	1*A	00301	12307 43012	
:	00270	-0	STATEMENT <sup>3</sup>	00302	10400 50505	
:	OC271 STATEMENT3	FD	STATEMENT <sup>3</sup>	00303	777777 777777	
:		XING WITH A,		00304	27061 11632	
:				00305	30051 12431	
:				00306	05512 30632	
:				00307	31161 00621	
:				00310	05221 62112	
:				00311	30743 01210	
:				00312	40050 50505	
:				00313	777777 777777	
:				00314	06050 50505	
:				00315	777777 00316	
:			PREF100316	27161	41531	
:				00317	05063 01012	
:				00320	23311 62423	
:				00321	05511 11214	
:				00322	27121 23040	
:				00323	56052 52712	
:				00324	13163 51623	
:				00325	14053 41631	
:				00326	15050 65605	
:				00327	777777 777777	
:				00330	06050 50505	
:			PREF11XNG332	00331	777777 00332	
:				11121	02116	
:				00333	23063 11624	
:				00334	23055 11112	
:				00335	14271 21230	
:				00336	40560 52527	
:				00337	12131 63516	
:				00340	23140 53416	
:				00341	31150 51556	
:				00342	777777 777777	
:				00343	06050 50505	
:				00344	777777 00345	
:				00345	36243 20515	
:				00346	06331 20531	
:				00347	36251 21105	

\*\*\*\*\* SPURT OUTPUT NO. 210  
 FXRAQEC  
 MATHIASEN 2/17/65

CARD	L1 TO LABEL	TA STATEMENT	LOC	F J K8 Y	NOTES
			00350	16212 11214	
			00351	06210 52527	
			00352	12131 63575	
			00353	05053 12736	
			00354	05061 40616	
CC302	-0	1*A STATEMENT6	00355	23750 50505	
CC303	QUESTION6	FO -0	00356	77777 77777	
CC304	STATEMENT6	FO 80*RADIUS (EARTH RAO11), PREFIXING	00357	06050 50505	
CC305	STATEMENT6	WITH R,	00360	77777 00361	
			00361	27061 11632	
			00362	30055 11206	
			00363	27311 50527	
			00364	06111 61640	
			00365	56052 52712	
			00366	13163 51623	
CC306	-0	1*A STATEMENT7	00367	14053 41631	
CC307	QUESTION7	FO -0	00370	15052 75605	
CO310	STATEMENT7	FO 80*RA00T (0EGREES/SEC1), PREFIXING	00371	77777 77777	
CO311	STATEMENT7	1TH 0,	00372	06050 50505	
			00373	77777 00374	
			00374	27061 12431	
			00375	05511 11214	
			00376	27121 23074	
			00377	30121 04056	
			00400	05252 71213	
			00401	16351 62314	
			00402	05341 63115	
			00403	05075 60505	
			00404	77777 77777	
			00405	06050 50505	
			00406	77777 00407	
			00407	11121 01124	
			00410	31055 11112	
			00411	14271 21230	
			00412	74301 2040	
			00413	56052 52712	
			00414	13163 51623	
			00415	14053 41631	
			00416	15051 25605	
			00417	24270 50505	
			00418	77777 77777	
			00421	06050 50505	
			00422	77777 00423	
			00423	27061 11632	
CO316	-0	1*A STATEMENT9	00424	30112 43105	
CO317	QUESTION9	FO -0	00425	51237 52275	
CO320	STATEMENT9	FO 80*RADIUSOOT (N.M./SEC), PREFIXING	00426	74301 21040	
CO321	STATEMENT9	WITH S.	00427	56052 52712	
			00430	13163 51623	

\*\*\*\*\* SPURT OUTPUT NO. 210 \*\*\*\*\*

MATHIASEN 2/17/65

CAROS	L1 ID LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
			00431	14053	41631		
			00432	15053	07505		
			00433	77777	77777		
			00434	06050	SD505		
			00435	77777	00436		
		00325 IDIDT	00436	06051	00627		
			00437	2716D	61412		
			00440	05271	23132		
			00441	27230	5163D		
			00442	05231	21D12		
			00443	30300	62736		
			00444	05061	33112		
			00445	27052	52712		
			00446	13163	51211		
			00447	05211	23131		
			00450	12277	5D505		
			00451	77777	77777		
			00452	35622	4D5D5		
			00453	0D010	0D456		
			00454	DD000	0D000	DEC	0B20
			00455	26400	0D000	DEC	36D-82D
			00456	DD000	0D000	DEC	OB2D
			00457	0D000	0D000	DEC	QUESTED RIGHT ASCENS
						DEC	DB27
						GHT ASCENS	R1
						IN REV	
			00460	35622	4D5D5		
			00461	0D010	0D464		
			00462	72277	77777	DEC	-90-B2D
			00463	0D500	0D000	DEC	90-B2D
			00464	0D000	0D000	DEC	OB20
						QUESTED DECLINATION	
						DR O FOR DECLINATION	
			00465	21610	SD505		
			00466	DD001	0D467		
			00467	0D000	0D000		CONTAINS A FOR RIGHT ASCENSIDN
						DR O FOR DECLINATION	
			00470	35626	2D505		
			00471	0D010	0D474		
			00472	7D014	63146	OEC	-31-9B22
			00473	214D0	0D000	DEC	7D-B22
			00474	0D000	0D000	DEC	D-B22
						DIUS (+ IF E.R.. - I)	R A
			00475	35627	1D505		
			00476	0D01D	0D501		
			00477	75605	07534	DEC	-0-07829
			00500	02172	7D243	DEC	.07829
			00501	0D000	0D000	DEC	D-B29
						ALPHA)/DT	DEGREES/S
			00502	35627	1D505		
			00503	0D01D	0D5D6		
			005D4	75605	07534	DEC	-0-07829
			00505	02172	7D243	DEC	.07829
			00506	0D000	0D000	DEC	0.B29
						D(	

CARD	LI	IO LABEL	TA STATEMENT	SPURT OUTPUT NO. 210 MATHIASSEN#2/17/65	LOC	F JKθ Y	NOTES
			FXRADEC				
00364		ANSWER7	F0 1*X24		00507	35626 40505	DEGREES/S
00365			10 MYRHO00T		00510	00010 00513	
00366			7077777777		00511	70777 77777	OEC -7.824
00367			0700000000		00512	07000 00000	OEC +7.824
00370		MYRHO00T	0000000000		00513	00000 00000	RHO1/OT 0. NAUTICAL H 01
00371		COS	JP COS		00514	61000 00514	ARBITRARY
00372			ENT B7*L(COS)		00515	12710 00514	STORE EXIT
00373			STR B7*L(SIN)		00516	16710 00525	
00374			ENT B7*1		00517	12700 00001	FLAG
00375			STR B7*L(SIN+4*20)		00520	16710 00577	
00376			JP COS+7*APOS		00521	60600 00523	
00377			CP A*		00522	15040 00000	
00400			JP SIN+2*APOS		00523	60500 00527	
00401		SIN	ENT A*(SIN+600)		00524	11030 00621	COS (0) 1
00402			JP SIN		00525	61000 00525	ARBITRARY
00403			STR BO*L(SIN+4*20)		00526	16010 00577	FLAG
00404			STR A*(SIN+680)*APOS		00527	15630 00631	
00405			CP A*		00530	15040 00000	SET POSITIVE
00406			RPT 290		00531	70000 00035	
00407			LSH A*I*ANEG		00532	6700 0001	SHIFT UNTIL BIT 29 1
00410			JP L(SIN)		00533	61010 00525	SIN(X) 0
00411			LSH A*290		00534	06000 00035	SHIFT RIGHT 1
00412			SUB Q*B7*QPOS		00535	27607 00000	QNEG IMPLIES X EXCEEOS PI/2
00413			JP SIN+340		00536	61000 00567	
00414			COM Q*300*YMORE		00537	04300 00036	PREVENT ILLEGITIMATE SHIFT
00415			ENT Q*300		00540	10000 00036	MAX SHIFT 30
00416			STR Q*(SIN+130)		00541	14010 00542	SOTRE SHIFT COUNT
00417			RSH A*0		00542	02000 00000	SCALE ARGUMENT AT 2B
00420			COM A*(SIN+590)*YMORE		00543	04730 00620	COMPARE WITH PI/2
00421			SIN+370		00544	61000 00572	REDUCE TO 1ST QUADRANT
00422			BSK BO*L(SIN+4*20)		00545	71010 00577	SKIP IF SINE
00423			SUB A*(SIN+590)*SKIP		00546	21130 00620	PI/2*X TO A
00424			ENT Q*(SIN+680)*QPOS		00547	10230 00631	CHECK SIGN
00425			CP A*		00550	15040 00000	A BEARS PROPER SIGN
00426			STR A*(SIN+680)		00551	15030 00631	STORE SIGNED ARGUMENT
00427			ENT Q*A		00552	10070 00000	SCALED AT 2B
00430			MUL W(SIN+680)		00553	22030 00631	X 2 AT 28+28 56
00431			RSH AQ*290		00554	03000 00035	SQUARED AT 27
00432			STR Q*(SIN+690)		00555	14030 00632	STORE X 2
00433			ENT Q*W(SIN+640)		00556	10030 00625	C9
00434			ENT B7*3		00557	12700 00003	LOOP 4 TIMES
00435			MUL W(SIN+690)		00560	22030 00632	SUM POLYNOMIAL
00436			ENT Q*A		00561	10070 00000	
00437			A00 Q*W(SIN+600)*B7)		00562	26037 00621	
00440			BJP B7*SIN+270		00563	72700 00560	
00441			MUL W(SIN+680)		00564	22030 00631	
00442			LSH AQ*2		00565	07000 00002	SCALE AT 28
00443			JP L(SIN)		00566	61010 00525	RETURN
00444			COM Q*X77741*YLESS		00567	04240 77741	CHECK FOR LEGIT SHIFT
00445			ENT Q*X77741		00570	10040 77741	-30

CAROS	LI	IO	LABEL	TA	STATEMENT	SPURT OUTPUT NO. 210			NOTES
						LOC	F	JK8	
					SPURT OUTPUT NO. 210 MATHIASSEN#2/17/65				
00446				STR	Q*CPL(SIN+130)	00571	14050	00542	
00447				RSH	AQ*2	00572	03000	00002	FORM X/(PI/2)
00450				OIV	W(SIN+590)	00573	23030	00620	CLEAR A
00451				ENT	A*0	00574	11000	00000	
00452				LSH	AQL(SIN+130)	00575	07010	00542	INTEGER TO A, FRACTION IN Q
00453				LSH	AQ*2	00576	07000	00002	
00454			A00	A*0		00577	20000	00000	
00455			RSH	AQ*2		00600	03000	00002	0 FOR SIN , 1 FOR COS
00456			ENT	LP*W(SIN+670)*ANOT		00601	40530	00630	
00457			ENT	LP*W(SIN+600)*ANOT		00602	40530	00621	
00460			JP	S(N+510)		00603	61000	00610	
00461			SUB	LP*W(SIN+660)		00604	42030	00627	ACCORD SIGN
00462			ENT	Q*W(SIN+680)*QPOS		00605	10230	00631	
00463			CP	A*		00606	15040	00000	
00464			JP	L(SIN)		00607	61010	00525	
00465			ENT	LP*W(SIN+650)*0000		00610	40330	00626	
00466			JP	SIN+560		00611	61000	00615	
00467			SUB	Q*W(SIN+660)*SKIP		00612	14200	00000	CP,Q,QPOS
00470			A00	Q*W(SIN+660)		00613	27130	00627	
00471			MUL	W(SIN+590)		00614	26030	00627	
00472			LSH	AQ*2		00615	22030	00620	SCALE AT 28
00473			JP	SIN+180		00616	07000	00002	
00474			31103	75524		00617	61000	00547	RETURN
00475			200000	00000		00620	31103	75524	P1/2 AT 28
00476			52525	25600		00621	20000	00000	C1 \$0 AT 28
00477			10420	71732		00622	52525	25600	C3-0\$1666 665669E00831
00500			76301	15701		00623	10420	71732	C5 0 .833302518E-2834
00501			00127	23405		00624	76301	15701	C7-1980741431E-5837
00502			600000	00000		00625	00127	23405	C9 0 .2601886909E-5840
00503			400000	00000		00626	60000	00000	
00504			17777	77777		00627	40000	00000	
00505			0	0		00630	17777	77777	
00506			0	0		00631	00000	00000	TEMPORARY
00507			RESERVE	1		00632	00000	00000	TEMPORARY
00510						00633	00000	00000	
						00634	77000	00000	
						00635	00050	50505	

END OF LISTING

SPURT OUTPUT NO. 211

MATHIASSEN 2/17/65

FXRADEC

LOC	LABEL	LOC	LABEL	LOC	LABEL
D0634	A\$SSS1111	00635	ACCOECOOT	0D155	
00061	ACCEPTADD	00112	ACCEPTDEC	00103	
00134	ACCEPTRHD	00142	ACCRAODAT	00164	
63071	ACQAZIM	63075	ACQELEV	63427	
63142	ACTUALTIME	63416	ADSCN	63417	
63517	ALNGOFFSET	00452	ANSWER1	00460	
00465	ANSWER3	00470	ANSWER4	00475	
00502	ANSWER6	00507	ANSWER7	00524	
63526	ARCOFEDEC	63522	ARCOFELEV	63530	
63106	ASTRODEC	63105	ASTRORA	63341	
63532	AZELDTIME	63500	AZELBXS CAN	63053	
63512	AZIMOFFSET	64000	AZIMOUT	63325	
63442	AZIMADD	75000	AZIMIN	63501	
63462	BODYSIZE	63146	BLASTOFF	63414	
63135	CONVERTTIME	63420	CDRCT	00514	
63065	COSORIENT	63070	CDSAZEL	00133	
CAZIM	63060	63113	CELBOOY	63424	
CELEV	63061	63133	CELTIME	00467	
CHCOR	63422	63431	CHPAR	63057	
63516	CRSSOFFSET	66000	OPPOUT	0DPPAO0	
D360B20	00214	63425	DATANALYZE	OAY	
DEC	63003	63515	DECDFSET	00131	
DECOOT	63010	00163	DECOOTADDR	00464	
DECLINSCAN	63505	00227	DEGRAO	00216	
DEGTOREV	00172	63316	DELTAEE	63444	
DIVIOENO	00200	63141	OSECONOS	63150	
DYDMP	63421	63054	ELEV	63513	
ELEVOUT	65000	63443	ELEVAOO	76000	
ELVINSCAN	63502	63323	EQUATOR	00230	
ESTSHIFTEO	63143	63350	EXPNAME	FATE	
FOA	D0063	63104	FIRSTLEV	FIRSTTHR	
FLATTENING	63337	63101	FRAMESIZE	FREQUENCY	
FXRADEC	00000	63322	GEOCENLAT	GEODELLAT	
GMTMODU24	63145	63144	GMTSHIFTEO	GMTNOHDL0	
HOLDUP	00026	00044	HOLQUP2	HDURMINUTE	
HOURREG	63151	63326	HEIGHT	63137	
101RA010	67776	67777	ID12RAADIO	1013RA010	
1014RA10	70776	63101	ID15RA010	71177	
101TRA010	72776	63322	ID1BRA010	1019RA010	
1023RA10	75776	72777	ID24RAOID	73775	
101CELCOR	63000	63410	ID1ENTPT	101RA0CDR	
101RA010	63440	63210	ID1RECRO	77576	
101SYSNAM	77577	63310	ID1SYSPAR	101TIME	
1D2SSENT	73777	63310	ID21RAADIO	1022RA010	
ID2TIME	63131	74776	ID24RAOID	71777	
105RA010	64777	63001	ID26ELCOR	1D25RA010	
IDBRAOID	65777	63441	ID2RAOID	76775	
INAZIMADO	63446	77677	102SYSNAM	102SYSPAR	
		63376	1D3RA010	1D4RA010	
		64777	106RA010	107RA010	
		66776	1D9RAID	1D10T	
		63447	INELEVADD	INER	

SPURT OUTPUT NO. 211			
MATHIASSEN•2/17/65			
LABEL	LOC	LABEL	LOC
INTERAZIM	72000	INTERCOM	63426
INTERELEV	73000	INTERCLKSW	63460
ISTART	00005	KPERNM	63342
LONGITUDE	63320	LSPERAU	63336
MAINSWITCH	63334	MCPFLIER	71000
MILLSTINAQ	63451	MINREG	63152
MSTART	00002	MYOECOOT	00506
MYRAOIJUS	00474	MYRHOOT	00513
NEXTLETTER	00053	NEXTQUERY	00014
POLE	63324	PERIODAZIM	63523
PERIOOELEV	63521	PERIOORA	63527
PLANP	63434	PREVIOUSTM	63461
PURERAOUT	00154	QUESTION1	00233
QUESTION4	00330	QUESTIONS	00343
QUESTION7	00372	QUESTIONB	00405
QUESTMARK	00021	ROTATEFBX	63507
ROTATEROBX	63510	RA	63002
RAAOOR	00111	RAOOT	63007
RAOARMODE	63312	RAOCBXSCAN	63503
RADIOOECEC	63541	RADIOMETER	63102
RAOIUS	63006	RAOIUSOOT	63011
RANGEOUT	70777	RANGEAO0	63445
RASCTNSCAN	63504	ROMTR	63430
RECORDSIZE	63112	RECAZIM	67000
RECFILE	63212	RECR0	63415
RELEASESH	63156	REV1B27	00215
RIGHTASCEN	00457	SAZIM	63055
SOEC	63005	SECONOS	63140
SIOERTIME	63012	SIGNCHECK	00210
SINORIENT	63004	SINAZEL	63066
SRA	63004	SRAOTIME	63136
STATE2	00270	STATE3	00276
STATEMENT1	00247	STATEMENT2	00255
STATEMENT4	00332	STATEMENTS	00345
STATEMENT7	00374	STATEMENT8	00407
SYNCTIMING	63547	SYSCOMMREG1	63452
SYSCOMMREG3	63454	SYSCOMMREG4	63455
SYSCOMMREG6	63457	SYSENTRIES	77600
SYSTAT1	63313	SYSTAT2	63314
TIMECORR	63107	TIMEMOOE	63103
TIMETOHOL0	63520	TRUE RANGE	63063
TTYSTATUS	63111	TWOP1	00132
VELOFLIGHT	63335	V120EC1	63014
VIZRA1	63013	VIZRA2	63015
WFREQ	63450	WFREQ	63333
WHITHER	00072	YEARMONTH	63147
ZRTRAN	63330		

END OF LISTING

SPURT OUTPUT NO. 212  
 FXRAOEC MATHIASEN#2/17/65

LOC	LABEL	LOC	LABEL
00000	FXRAOEC	00002	I START
00014	NEXTQUERY	00021	HOLUOP
00044	HOLUOP 2	00053	ACCEPTAO
00063	FOA	00072	NOMORE
00103	ACCEPTRA	00111	ACCEPTEC
00131	OEAOR	00132	COSOEC
00134	ACCEPTRHO	00142	RAODTAOR
00154	PUREAOOT	00155	OECDOAOR
00164	ACCRHOOT	00172	DIVTOENO
00210	SIGNCHECK	00212	0360B20
00215	REVIB27	00216	WHENCE
00225	FATE	00227	ERROR
00233	QUESTION1	00247	STATEMENT2
00263	STATE1	00270	STATE3
00304	STATE4	00314	STATEMENT3
00345	QUESTION4	00332	QUESTIONS
00375	STATEMENTS	00357	STATEMENT6
00372	QUESTION7	00374	QUESTION8
00407	STATEMENT8	00421	STATEMENT9
00434	MORON	00436	TOTOT
00456	RIGHTASC	00457	RIGHTASCEN
00464	OECLIN	00465	ANSWER3
00470	ANSWER4	00474	MYRAOIJUS
00501	HYRAOIT	00502	ANSWER6
00507	ANSWER7	00513	HYRHOOT
00525	SIN	00634	A\$\$\$\$\$1111
63000	101CELCOR	63001	102CELCOR
63003	OEC	63004	SRA
63006	RAOITUS	63007	RAOOT
63011	RAOIUSOOT	63012	SIOERTIME
63014	VIZOEC1	63015	VIZRAZ2
63017	TWOSECOP	63050	101RAOCOR
63052	RANGE	63053	AZIM
63055	SAZIM	63056	SELEV
63060	CAZIM	63061	CELEV
63063	TRUERANGE	63064	SINORIENT
63066	SINAZEL	63070	COSAZEL
63075	ACQELEV	63101	FRAMESIZE
63103	TIME00E	63104	FIRSTTELEV
63106	ASTRO0EC	63107	TIMECORR
63111	TTYSTATUS	63112	RECOROSIZE
63130	101TIME	63131	102TIME
63133	CET1ME	63134	SCLETIME
63136	SRAOTIME	63137	OURMINUTE
63141	OSEC0NOS	63142	ACTUALTIME
63144	GMTSHIFTEO	63145	GMTMO024
63147	YEARMONTH	63150	OAY
63152	MINREG	63153	F1RSTHRU
63155	RECROSWTCH	63156	RELEASESW
63211	102RECRO	63212	RECFILE
63311	102SYSPAR	63312	RAOARM00E

SPURT		OUTPUT No. 212		MATHIASEN# 2/17/65	
LABEL	LOC	LABEL	LOC	LABEL	LOC
SYSTAT2	63314	SYSTATO	63315	DELTAEE	63316
FREQUENCY	63317	LONGITUDE	63320	GEOEQLAT	63321
GEOCENLAT	63322	EQUATOR	63323	POLE	63324
AZIMOVER	63325	HEIGHT	63326	YRTRAN	63327
ZRTRAN	63320	SKIP	63331	MSPREQ	63332
WFREQ	63333	MAINSWITCH	63334	VELOFLIGHT	63335
LSPERAU	63336	FLATTENING	63337	NMPERAU	63340
AUPEREQUAT	63341	KMPERNM	63342	EXPNAME	63350
TO1ENTPNT	63410	TO1ENTPNT	63411	MCPGM	63412
INTER	63413	COCON	63414	RECRO	63415
AOSCN	63416	AESCN	63417	CORCT	63420
OYOMP	63421	CHCOR	63422	PRLOG	63423
CELCOMPGM	63424	OATANALYZE	63425	INTERCOM	63426
ACQUI	63427	ROMTR	63430	CHPAR	63431
WFORO	63432	ROXXX	63433	PLANP	63434
TIMEP	63435	PLOTP	63436	ID1RADIO	63440
ID2RAOIO	63441	AZIMAOO	63442	ID3443	63443
OOPPAOO	63444	RANGEAOO	63445	INAZIMADD	63446
INELLEVAOO	63447	WF400	63450	MILLSTNADD	63451
SYSCOMMREG1	63452	SYSCOMMREG2	63453	SYSCOMREG3	63454
SYSCOMMREG4	63455	PREVIOUSTM	63456	SYSCOMREG6	63457
INTERLKSW	63460	AZMTHSCAN	63501	BODYSIZE	63462
AZELBXS CAN	63500	RASCTNSCAN	63504	ELVNSCAN	63502
RAOCBXSCAN	63503	ROTATEABX	63507	DECLINSCAN	63505
ROTATERAON	63506	AZIMOFFSET	63512	ROTATERBX	63510
HOLONOHOL0	63511	OECOFFSET	63515	ELEVOFFSET	63513
RAOFFSET	63514	TIMETOHOL0	63520	CROSSOFFSET	63516
ALNGOFFSET	63517	PERIODTEV	63523	PERIODEEV	63521
ARCOFELV	63522	ARCOFAZIM	63524	ARCOFAZIM	63524
PERIO0OEC	63525	ARCOFOEC	63526	PERIODIA	63527
ARCOFRA	63530	RAOECDT1ME	63531	AZELOTIME	63532
RAOIORA	63540	RAOI0OEC	63541	SYNC TIMING	63542
ID3RAOIO	63776	104RAOIO	63777	AZIMOUT	64000
ID5RAOIO	64776	106RAOIO	64777	ELEVOUT	65000
ID7RAOIO	65776	108RAOIO	65777	DOPDOUT	66000
ID9RAOIO	66776	1010RAOIO	66777	RECAZIM	67000
ID11RAOIO	67776	1012RAOIO	67777	RECELEV	70000
ID13RAOIO	70775	1014RAOIO	70776	RANGEOUT	70777
MCPFILLER	71000	1015RAOIO	71777	ID16RADIO	71777
INTERAZIM	72000	1017RAOIO	72777	ID18RADIO	72777
INTERELEV	73000	1019RAOIO	73776	ID20RADIO	73777
INTEROOPP	74000	1021RAOIO	74776	ID22RADIO	74777
AZIMIN	75000	1023RAOIO	75776	ID24RADIO	75777
ELEVIN	76000	1025RAOIO	76775	ID26RADIO	76776
INTERRANGE	76777	101SYSENT	77576	ID2SYSENT	77577
SYSENTRIES	77600	101SYSNAM	77676	ID2SYSNAM	77677
SYSNAMES	77700				

END OF LISTING

SPURT OUTPUT NO. 210  
 J00•6/25/65

CAROS	LI TO LABEL	TA STATEMENT	PLANNER	PROGRAM	J00•6/25/65	LOC	F JKBY	NOTES
	C0000 PLANNER			U-TAG	PLRUN•PLINIT	00000	00006	00002
	C0001 PLANNER			FO	1•PLANP	00001	25210	62325
	00002			ENTRY		00002	61000	00000
	00003 PLINIT			PUT	W(ELEV) •W(FIRSTELEV)	00003	10030	63054
	C0004					00004	14030	63104
	00005			EXIT		00005	61010	00002
	C0006 PLRUN			ENTRY		00006	61000	00000
	C0007			JP	\$+2•KEY2	00007	61200	00011
	C0010			EXIT		00010	61010	00006
	00011			ENT	Q•W(FIRSTELEV)	00011	10030	63104
	C0012			ENT	A•W(ELEV)	00012	11030	63054
	C0013			STR	A•W(FIRSTELEV) •QNEG	00013	15330	63104
	C0014			JP	ELOPOS	00014	61000	00017
	C0015			JP	RISET•APOS	00015	60600	00034
	C0016			EXIT		00016	61010	00006
	C0017 ELOPOS			JP	L•PLRUN) •APOS	00017	60610	00006
	C0020 SETTING			RJP	FIGTIME	00020	65000	00071
	C0021			MOVE	3•ANS•ST	00021	10030	00062
						00022	14030	00052
						00023	10030	00063
						00024	14030	00053
						00025	10030	00064
						00026	14030	00054
						00027	65020	63423
						00028	10030	00050
						00029	10030	00051
						00030	00002	77745
						00031	12000	00000
						00032	12000	00000
						00033	61010	00006
						00034	65000	00071
						00035	10030	00062
						00036	14030	00057
						00037	10030	00063
						00038	14030	00060
						00039	10030	00064
						00040	14030	00060
						00041	10030	00064
						00042	14030	00061
						00043	65020	63423
						00044	00005	00055
						00045	00002	77745
						00046	12000	00000
						00047	61010	00006
						00048	30123	10506
						00049	31050	50505
						00050	00000	00000
						00051	00052	00000
						00052	00000	00000
						00053	27243	01205
						00054	06310	50505
						00055	00000	00000
						00056	00000	00000
						00057	00000	00000
						00058	00000	00000
						00059	00000	00000
						00060	00000	00000
						00061	00000	00000
						00062	00000	00000
						00063	00000	00000
						00064	00000	00000
						00065	00000	00000
						00066	00000	00000
						00067	00000	00000
						00068	00000	00000
						00069	00000	00000
						00070	00000	00000
						00071	61000	00000

\*\*\*\*\* PLANNER \*\*\*\*\*

SPURT OUTPUT NO. 210  
J00•6/25/65

CAROS	L1 10 LABEL	TA STATEMENT	LOC	F	JKB	Y	VOTES
	00050	ENT Q•W(CELTIME)	00072	10030	63133		
	00051	MUL 240	00073	22000	00030		EXTRACT HOURS
	00052	STR Q•W(TEMP1)	00074	14030	00070		
	00053	LSH AQ•2	00075	07000	00002		
	00054	STR A•W(HH)	00076	15030	00065		
	00055	ENT A•W(TEMP1)	00077	11030	00070		
	00056	SEL CL•6000000000	00100	52030	00143		
	00057	STR A•Q	00101	15000	00000		
	00060	MUL 600	00102	22000	00074		
	00061	STR Q•W(TEMP1)	00103	14030	00070		
	00062	LSH AQ•2	00104	07000	00002		
	00063	STR A•W(MM)	00105	15030	00066		
	00064	ENT A•W(TEMP1)	00106	11030	00070		
	00065	SEL CL•6000000000	00107	52030	00143		
	00066	STR A•Q	00110	15000	00000		
	00067	MUL 600	00111	22000	00074		
	00070	LSH AQ•2•QPOS	00112	07200	00002		
	00071	A00 A•1	00113	20000	00001		
	00072	STR A•W(SS)	00114	15030	00067		
	00073	SUB A•600•ZERO	00115	21400	00074		
	00074	JP CHECKMIN	00116	61000	00121		
	00075	STR A•W(SS)	00117	15030	00067		
	00076	RPL Y•1•L(MM)	00120	36010	00066		
	00077	CHECKMIN	00121	11030	00066		
	00100	ENT A•W(MM)	00122	21400	00074		
	00101	SUB A•600•AZERO	00123	61000	00126		
	00102	JP \$•3	00124	15030	00066		
	00103	STR A•W(MM)	00125	36010	00065		
	00104	RPL Y•1•W(HH)	00126	12300	00000		
	00105	CL B3•	00127	11000	00000		
	00106	A•	00130	10033	00065		
	00107	ENT Q•W(HH+B3)	00131	23000	00012		
	00110	OIV 100	00132	20000	00060		
	00111	A00 A•60	00133	26000	00060		
	00112	LSH A•240	00134	06000	00030		
	00113	LSH AQ•240	00135	07000	00030		
	00114	STR Q•W(ANS+B3)	00136	14033	00062		
	00115	BSK B3•2	00137	71300	00002		
	00116	JP LOOP	00140	61000	00127		
	00117	EXIT	00141	61010	00071		
	00120	NO-OP	00142	12000	00000	OJMMY	
			00143	60000	00000		

END OF LISTING

SPURT OUTPUT NO. 211

PLANNER

JDO•6/25/65

LABEL	LOC	LOC	LDC	LOC	LDC	LABEL
A\$S\$S\$1111	0D143	ACQAZIM	63071	ACQELEV	63075	
ACQUI	63427	ACTUALTIME	63142	AOSCN	63416	
AESCN	63417	ALNGOFFSET	63517	AVS	00662	
ARCOFAZIM	63524	ARCDFOEC	63526	ARCODEV	63522	
ARCOFRA	63530	ASTRODEC	63106	ASTRDR4	63105	
AUPEREQUAT	63341	AZELOTIME	63532	AZELBXSCAN	63500	
AZIM	63053	AZIMOFFSET	63512	AZIMOUT	64000	
AZIMOVER	63325	AZIMAOD	63442	AZIMIN	75000	
AZMTHSCAN	63501	BDOVSIZE	63462	BLASTOFF	63146	
COCON	63414	CONVERTIME	63135	CORCT	63420	
COSDRENT	63065	COSAZEL	63070	CAZIM	63060	
CELBODY	63113	CELCMPGM	63424	CELEV	63061	
CELTIME	63133	CHCOR	63422	CHECKMIN	00121	
CHPAR	63431	CHARGE	63057	CROSSOFFSET	63516	
DOPPDT	66000	DDPAOD	63444	DATANALYZE	63425	
DAY	63150	DEC	63003	DECOFFSET	63515	
DECDET	63010	DECLINSCAN	63505	DELTAE	63316	
DSECONOS	63141	QUMSECTG	63154	QYDMP	63421	
ELDDOTS	00017	ELEV	63054	ELEVOFFSET	63513	
ELEVOUT	65000	ELEVATO	63443	ELEVIN	76000	
ELVINSCAN	63502	EQUATOR	63323	ESTSHIFTED	63143	
EXPNAME	63350	FIGTIME	00071	FIRSTLEV	63104	
FIRSTHTRU	63153	FLATTENING	63337	FRAMESIZE	63101	
FREQUENCY	63317	GEOCENLAT	63322	GEDDTLAT	63321	
GMTMOUD24	63145	GMTSHIFTED	63144	HOLDNDHLD0	63511	
HOURMINUTE	63137	HOURREG	63151	HEIGHT	63326	
HH	00065	ID10RA010	66777	ID11RA010	67776	
ID12RA010	67777	ID13RA010	70775	ID14RA010	70776	
ID15RA010	71776	ID16RA010	71777	ID17RA010	72776	
ID18RA010	72777	ID19RA010	73776	ID1C1CLDR	63000	
ID1ENPNT	63410	ID1RA0CDR	63050	ID1RA010	63440	
ID1RERO	63210	ID1SYSENT	77576	ID1SYSNAM	77676	
ID1SYSPAR	63310	ID1TIME	63130	ID2RA010	73777	
ID21RA010	74776	ID22RA010	74777	ID23RA010	75777	
ID24RA010	75777	ID25RA010	76775	ID26RA010	76776	
ID2CELCOR	63001	ID2ENTPNT	63411	ID2RADCDR	63051	
ID2RA010	63441	ID2RECPR	63211	ID2SYSENT	77577	
ID2SYSNAM	77677	ID2SYSPAR	63311	ID2TIME	63131	
ID3RA010	63776	ID4RA010	63777	ID5RADID	64776	
ID6RA010	64777	ID7RA010	65776	ID8RA010	65777	
ID9RA010	66776	ID2ENTPNT	63411	INELEVAD	63447	
INTER	63413	ID2RECPR	63211	INTERCOM	63426	
INTERDPP	74000	ID2SYSPAR	63311	INTERLCKSW	63460	
INTERRANGE	76777	ID4RA010	63777	KYBRDLEVEL	63110	
LOOP	00127	ID7RA010	65776	LSPERAU	63336	
MAINSWITCH	63334	MCPFILLER	71000	MCPCM	63412	
MILLSNADD	63451	MINREG	63152	MW	00666	
MSFREQ	63332	NMPERAU	63340	POL	63324	
PERIODAZIM	63523	PERIODEC	63525	PERIODEV	63521	
PERIODRA	63527	PLDTP	63436	PLANNER	00000	
PLANP	63434	PLINIT	00002	PLRUN		

SPURT OUTPUT NO. 211

J00•6/25/65

PLANNER

LABEL	LOC	LABEL	LOC	LABEL	LOC
PREVIOUSTM	63461	PRLOG	63423	ROTATEAEX	63507
ROTATERAON	63506	ROTATEROBX	63510	RA	63002
RAOFFSET	63514	RAOOT	63007	RAARMOE	63312
RAOCBSCAN	63503	RAOCOTIME	63531	RAOLOC	63541
RAOIOMETER	63102	RAOIORA	63540	RAOIJUS	63006
RAOIUSOOT	63011	RANGE	63052	RANGEOUT	70777
RANGEAOO	63445	RANGEOOT	63062	RASCNSCAN	63504
ROMTR	63430	ROXXX	63433	RECORDSIZE	63112
RECAZIM	67000	RECELEV	70000	RECFILE	63212
RECRO	63415	RECROSWATCH	63155	RELEASESW	63156
RISET	00034	RT	00057	SAYTSE	00055
SAYSET	00050	SAZIM	63055	SCLETIME	63134
SOEC	63005	SECONOS	63140	SELEV	63056
SETTING	00020	SIOERTIME	63012	SINORIENT	63064
SINAZEL	63066	SKIP	63331	SRA	63004
SRAOTIME	63136	SS	00067	ST	00052
SYNCTIMING	63542	SYSCOMREG1	63452	SYSCOMREG2	63453
SYSCOMREG3	63454	SYSCOMREG4	63455	SYSCOMREG5	63456
SYSCOMREG6	63457	SYSENTRIES	77600	SYNAMES	77700
SYSTATI	63313	SYSTAT2	63314	SYSTATO	63315
TEMP	00070	TIMECORR	63107	TIMMOOE	63103
TIMEP	63435	TIMEPOHLO	63520	TRUE RANGE	63063
TRUETIME	63132	TTYSTATUS	63111	TWOSECOP	63017
VELOFLIGHT	63335	VIZOEC1	63014	VIZOEC2	63016
VIZRA1	63013	VIZRA2	63015	WFORD	63432
WFAOO	63450	WFFREQ	63333	YEARMONTH	63147
YRTRAN	633327	ZRTRAN	633330		

END OF LISTING

SPURT OUTPUT No. 212

JOD•6/25/65

## PLANNER

LABEL	LOC	LABEL	LOC	LABEL	LOC
PLANNER	00000	PLINIT	00002	PLRUN	00006
ELDLDPS	00017	SETTING	00020	RISET	00034
SAYSET	00050	ST	00052	SAYRISE	00055
RT	00057	ANS	00062	HH	00065
MM	00066	SS	00067	TEMP	00070
FIGTIME	00071	CHECKMIN	00121	LOOP	00127
ASSSSSSSS	00143	101CELCOR	63000	ID2CELCOR	63001
RA	63002	OEC	63003	SRA	63004
SOEC	63005	RAOIJUS	63006	RAOOT	63007
OECOOT	63010	RADIUS00T	63011	SIDER1ME	63012
VIZRA1	63013	VIZOEC1	63014	VIZRA2	63015
VIZOEC2	63016	TWOSECOP	63017	IDRAOCOR	63050
ID2RAOCOR	63051	RANGE	63052	AZIM	63053
ELEV	63054	SAZIM	63055	SELEV	63056
CRANGE	63057	CAZIM	63060	CELEV	63061
RANGEOOT	63062	TRUEANGE	63063	SINORENT	63064
COSORIENT	63065	SINAZEL	63066	COSAZEL	63070
ACQAZIM	63071	ACQLEV	63075	FRAMESIZE	63101
RADIOMETER	63102	TIMEMOOE	63103	FIRSTLEV	63104
ASTROARA	63105	ASTROEC	63106	TIMECORR	63107
KYBRDLEVEL	63110	TTYSYSTEM	63111	RECORDSIZE	63112
CELBOOVY	63113	IDITIME	63130	102TIME	63131
TRUE TIME	63132	CELTIME	63133	SCETIME	63134
CONVERT TIME	63135	SRAOTIME	63136	HOURMINUTE	63137
SEGONOS	63140	SECONDS	63141	ACTUALTIME	63142
ESTSHIFTEO	63143	GMTSHIFTEO	63144	GMTMODU24	63145
BLASTOFF	63146	YEARMONTH	63147	DAY	63150
HOURREG	63151	MINREG	63152	FIRSTTHRU	63153
OUNSECUTG	63154	RECNSWTC	63155	RELEASESW	63156
101RECORD	63210	102RECORD	63211	REFILE	63212
101SYSPAR	63310	102SYSPAR	63311	RADARMODE	63312
SYSTAT1	63313	SYSTAT2	63314	SYSTATO	63315
DELTATEE	63316	FREQUENCY	63317	LONGITUDE	63320
GEOOETLAT	63321	GEOCENLAT	63322	EQUATOR	63323
POLE	63324	AZIMOVER	63325	HEIGHT	63326
YRTRAN	63327	ZRTRAN	63330	SKIP	63331
MFREQ	63332	WFREQ	63333	MAINSWITCH	63334
VELOFLIGHT	63335	LSPERAU	63336	FLATTENING	63337
NMPERAU	63340	AUPEREQUAT	63341	KMPERNM	63342
EXPNAME	63350	101ENTPNT	63410	102ENTPNT	63411
MCPGM	63412	AOSCN	63413	COCON	63414
RECRO	63415	ODYMP	63421	AESCN	63417
CORCT	63420	CELCOMPGM	63424	CHCOR	63422
PRLOG	63423	ACQUI	63427	DATANALYZE	63425
INTERCOM	63426	WFORO	63432	ROMTR	63430
CHPAR	63431	TIMEP	63435	ROXXX	63433
PLANP	63434	102RAD10	63441	PLOT	63436
101RA010	63440	OPPDAO	63444	AZIMAO	63442
ELEVAO0	63443	INELEVAD	63447	RANGEAO	63445
INAZMA0D	63446	SYSCOMREG1	63452	WFAD0	63450
MILLSTA0D	63451	SYSCOMREG2	63453		

SPURT		OUTPUT NO. 212		JDD=6/25/65	
PLANNER	LDC	LABEL	LOC	LABEL	LOC
SYSCOMMREG3	63454	SYSCOMMREG4	63455	SYSCOMMREG5	63456
SYSCDRREG6	63457	INTERCLKSW	63460	PREVIOUSTIME	63461
BDOYSIZE	63462	AZELBXS CAN	63500	AZMTHSCAN	63501
ELVTNACAN	63502	RAOCBXSCAN	63503	RASCTVS CAN	63504
OECCLINSCAN	63505	RTATERADN	63506	ROTATEABX	63507
ROTATEDBX	63510	HOLONOHOLD	63511	AZIMOFFSET	63512
ELEVOFFSET	63513	RADOFFSET	63514	DECDFSET	63515
CRSSDFFSET	63516	ALNGDFFSET	63517	TIMETOHOLD	63520
PERIODLEV	63521	ARCDFFLEV	63522	PERIODAZIM	63523
ARCOFAZIM	63524	PERIODOEC	63525	ARCOFOEC	63526
PERIODRA	63527	ARCOFRA	63530	RAECDTIME	63531
AZELOTIME	63532	RAOIDRA	63540	RAOIOEC	63541
SYNTIMING	63542	IO3RADIO	63774	IO4RAOID	63777
AZIMOUT	64000	IDSRAOID	64776	ID6RAOID	64777
ELEVOUT	65000	IO7RAOID	65776	IDBRAOID	65777
OOPPOUT	66000	IO9RAOID	66776	IO10RAOID	66777
RECAZIM	67000	ID11RAOID	67776	ID12RAOID	67777
RECELEV	70000	ID13RAOID	70775	ID14RAOID	70776
RANGEDUT	70777	MCPFILLER	71000	ID15RAOID	71776
IO16RAOID	71177	INTERAZIM	72000	ID17RAOID	72776
IO18RAOID	72777	INTERLEV	73000	ID19RAOID	73776
IO22RAOID	73777	INTERDOPP	74000	ID21RAOID	74776
IO22RA010	74777	AZIMIN	75000	ID23RAOID	75776
IO24RA010	75777	ELEVIN	76000	ID25RAOID	76775
IO26RAD0	76776	INTERRANGE	76777	IO1SYSENT	77576
IO2SYSENT	77577	SYSENTRIES	77600	IO1SYSNAME	77676
IO2SYSNAME	77677	SYSNAMES	77700		

END OF LISTING

SPURT OUTPUT NO. 210  
R. TEOSTE #4/9/65

CAROS	L1 TO LABEL	TA STATEMENT	LOC	F	J	K	B	Y	NOTES
	00000 PLOTP	PROGRAM R. TEOSTE #4/9/65	00000	00216	00002				
	00001 PLOT	U-TAG PLOTHOOK*PLOT(NIT	00001	25212	43125				
	C0002 F0	I*PLOTP	00002	61000	00000				
	C0003 PLOTIN(T	ENTRY	00003	11730	63112	IS SYS CYCLING AT H( SPO			
	C0004 F0	ENT A*W(RECORDSIZE)*ANEG	00004	61000	00011	NO			
	C0005 JP	GOPLOTGO	00005	16020	63436	PLOT NOT TO OPERATE			
	C0006 CL	U(PLOTP)	00006	10000	60000	SET TO RIL			
	C0007 PUT	60000*U(52)	00007	14020	00052				
		EX(T U(PLOT)*U(PLOTP)	00010	61010	00002	BACK TO MCP			
		PUT U(PLOT)U(PLOTP)	00011	10020	00000	SET UP WORKING ENTRY			
	00012 ENT	A*W(PLOTRJP)	00012	14020	63436	SET INTERRUPT REGISTER			
	C0013 STR	A*W(52)	00013	11030	00065				
	C0014 CL	L(PLOTB)	00014	15030	00052				
	C0015 ENT	A*L(X(SYST1)*APOS	00015	16010	00156				
	C0016 JP	L(PLOTPINIT)	00016	11650	63313				
	C0017 RJP	U(INTERCOM)	00017	61010	00002				
	C0020 U-TAG	PLOTQUEST*PLOTAWS	00020	65020	63426	CALIBRATION PROCEDURE			
	C0021 ENT	A*W(PCALCODE)*ANOT	00021	00032	00050				
	C0022 JP	AJSTOP	00022	11530	00052				
	C0023 STR	A*L(PLOTB)	00023	61000	00027				
	C0024 RJP	U(INTERCOM)	00024	15010	00156				
	C0025 U-TAG	PLOTQUEST*PLOTAWS	00025	65020	63426				
	C0026 PUT	2*L(PLOTB)	00026	00053	00050				
		00027 10000 00002	00027	10000	00002				
	C0027 JP	L(PLOT(NIT)	00030	14010	00156				
	00030 F0	O*A	00031	61010	00002				
	00031 -0	\$+1	00032	06050	50505				
	00032 F0	O*OO YOU WANT TO ADJUST STRIP CHART00034	00033	77777	00034				
		RECORER (Y OR N)	00034	11240	53624				
			00035	32053	40623				
			00036	31053	12405				
			00037	06111	73230				
			00040	31053	03127				
			00041	16250	51015				
			00042	06273	10527				
			00043	12102	42711				
			00044	12270	55136				
			00045	05242	70523				
			00046	40050	50505				
	C0033 -0		00047	77777	77777				
	C0034 F0	O*Y	00050	36050	50505				
	C0035 1	PCALCODE	00051	00001	00052				
	C0036 1	O*A	00052	00000	00001				
	C0037 F0	O*A	00053	06050	50505				
	00040 -0	\$+1	00054	77777	00055				
	00041 F0	O*CARR(AGE RETURN TO STOP ADJUSTMEN00055	00062	10062	72716				
		T	00056	06141	20527				
			00057	12313	22723				
			00060	05312	40530				
			00061	31242	50506				

\*\*\*\*\* SPURT OUTPUT NO. 210  
 R=TEOSTE•4/9/65

CAROS	L1 TO LABEL	TA STATEMENT	LOC	F JK8 Y	NOTES
		RJP PLOTINTER	00062	11173 23031	
00042		-0 RJP PLOTINTER	00063	22122 33105	
00043	PLOTRJP	ENTRY	00064	77777 77777	
00044	PLOTINTER	JP \$+2•C13•ACTIVEOUT	00065	65000 00066	PLOT ROUTINE OPERATE ONLY IF AZ OUT IS ACTI
00045			00066	61000 00000	VE
			00067	63540 00071	
00046		RILJP L(PLOTINTER)	00070	60110 00066	
00047		STR A•W(IPLOTA)	00071	15030 00154	
00050		STR Q•W(IPLOTQ)	00072	14030 00155	
00051		STR B7•UIPLOTB)	00073	16720 00156	
00052		ENT A•L(XSTATAT)•APOS	00074	11650 63313	
00053		ENT JP PLOTSOP	00075	61000 00152	SYSTEM NOT CYCLING
00054		ENT A•U(SECONOS)	00076	11020 63140	
00055		SUB A•5•ANOT	00077	21500 00005	
00056		JP PLOTMIO	00078	61000 00211	
00057		ENT A•U(U112)	00101	11020 00112	
00060		A00 A•100	00102	20000 00012	
00061		STR A•U(U112)	00103	15020 00112	
00062		IN C12•W(I12)•MONITOR	00104	75530 00112	
00063		ENT B7•L(L113)	00105	12710 00113	
00064		ENT A•W(77776+B7)	00106	11037 77776	
00065		RSH AQ•170	00107	03000 00021	
00066		ENT A•W(77776+B7)	00108	11037 77776	
00067		ENT B7•L(L133)	00111	12710 00133	
00070		SUB A•W(77776+B7)	00112	21037 77776	
00071		RSH A•1	00113	02000 00001	
		A00 A•40	00114	20000 00040	
00072		RSH AQ•6	00115	03000 00006	
00073		ENT B7•L(L112)	00116	12710 00112	
00074		ENT A•W(77776+B7)	00117	11037 77776	
00075		ENT B7•L(L132)	00118	12710 00133	
00076		SUB A•W(77776+B7)	00119	21037 77776	
00077		RSH A•10	00120	02000 00013	
		A00 A•40	00121	03000 00006	
00100		RSH AQ•6	00122	11037 77776	
00101		ENT B7•L(L132)	00123	12710 00132	
00102		SUB A•W(77776+B7)	00124	21037 77776	
00103		RSH A•1	00125	02000 00001	
00104		A00 A•40	00126	20000 00040	
00105		RSH AQ•6	00127	03000 00006	
00106		ENT A•25	00130	11000 00025	
00107		RSH AQ•6	00131	03000 00006	
00110		STR Q•W(IPLTWORO)	00132	14030 00140	
00111		EX-FC T C5•W(IPLTWORO)	00133	13270 00140	
		ENT A•W(IPLTQ)	00134	11030 00154	
00112	ENDPLOT	ENT Q•W(IPLTQ)	00135	10030 00155	
00113		ENT B7•UIPLOTB)	00136	12720 00156	
00114		RTLJP L(PLOTINTER)	00137	60110 00066	
00115		O PLOWORD	00140	00000 00000	
00116		O PLOTCASE	00141	00000 00221	
00117	PLOT.PTAB	O AJUSTCASE	00142	00000 00157	
00120		O CALCASE	00143	00000 00171	
00121		ENT A•U(U112)	00144	11020 00112	
00122	TIMEMARK	ENT A•600	00145	20000 00074	
00123					

SPURT OUTPUT NO. 210  
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CAROS	LI TO LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
	00124	STR A*U(1121 IN C12*W(1121*MONITOR	00146	15020	00112
	CC125	EX-FACT C5*2340404040	00147	75530	00112
	CC126	JP ENOPLOT	00150	13270	00241
	00127	00151	61000	00134	
	00130	PLOTSTOP EX-FACT CS*2440404040	00152	13270	00242
	00131	JP ENOPLOT 0	00153	61000	00134
	CC132	PLOTA 0	00154	00000	00000
	00133	PLOTQ 0	00155	00000	00000
	CC134	PLOTB 0	00156	00000	00000
	00135	ACJSTCASE ENT A*WIAOJI1	00157	11030	00210
	CC136	SUB A*2*AZERO	00160	21400	00002
	00137	RPL Y*I*WIAOJI1*SKIP	00161	36130	00210
	00140	CL WIAOJI1	00162	16030	00210
	00141	ENT B7*LIAOJI1	00163	12710	00210
	CC142	EX-FACT C5*(AJOUTABLE+B71	00164	13277	00166
	00143	JP LIPLOTWORK 1	00165	61010	00216
	00144	2500000000	00166	25000	00000
	00145	254004040	00167	25404	04040
	00146	2577777777	00170	25777	77777
	00147	CALCASE ENT A*WIPLOTWORO11	00171	11030	00207
	00150	SUB A*W(AJOUTABLE+21*ANOT	00172	21530	00170
	00151	JP PLOTENO	00173	61000	00202
	00152	ENT A*WIPLOTWORO11	00174	11030	00207
	00153	A00 A*W(PLITINCREM)	00175	20030	00201
	00154	STR A*WIPLOTWORO11	00176	15030	00207
	00155	EX-FACT C5*WIPLOTWORO11	00177	13270	00207
	00156	JP LIPLOTWORK 1	00200	61010	00216
	00157	PLITINCREM 0001010101	00201	00010	10101
	00160	PLOTENO	00202	11030	00232
	00161	STR A*WIPLOTWORO11	00203	15030	00207
	00162	PUT O*LIPLOTEI	00204	10000	00000
	00163	JP LIPLOTWORK 1	00205	14010	00156
	00164	24767676777	00206	61010	00216
	0C165	A0J1 0	00207	24767	67677
	00166	PLOTMIO	00210	00000	00000
	00167	ENT A*U(1121	00211	11020	00112
	00170	SUB A*U11NELEVA001	00212	21020	63447
	00171	SUB A*2490*AZERO	00213	21400	00371
	00172	JP PLOTVALUES	00214	61000	00101
	00173	JP TIMEMARK1	00215	61000	00144
	00174	ENTRY	00216	61000	00000
	00175	ENT B7*LIPLOB1	00217	12710	00156
	00176	JP LIPLOTJPTAB+B71	00220	61017	001b1
	00177	ENT A*U11NELEVA001	00221	11020	63447
	00200	A00 A*90	00222	20000	00911
	00201	STR A*U1121	00223	15020	00112
	00202	ENT A*U(SECONOSI	00224	11020	63140
	00203	SUB A*4*ANOT	00225	21500	00004
	00204	JP PLOTPATCH	00226	61000	00233
	00205	ENT A*IPLOTWORK1	00227	11010	00216
	00206	STR A*1PLOTINTER1	00230	15010	00066
	00207	JP ENOPLOT-1	00231	61000	00133
		24767676777	00232	24767	67677

		SPURT		OUTPUT NO. 210			
				R.TEOSTE•4/9/65			
CAROS	L1 IO LABEL	TA STATEMENT		LOC	F	JKB	Y
NOTES							
*	00210 PLOTPATCH	EX-FCT C5*2540404040		00233	13270	00241	
*	00211	ENT A*U(112)		00234	11020	00112	
*	00212	A00 A*500		00235	20000	00062	
*	00213	STR A*U(112)		00236	15020	00112	
*	00214	JP L(PLOTWORK)		00237	61010	00216	
*	00215	RESERVE 1		00240	00000	00000	
*				00241	25404	04040	
*				00242	24404	04040	

END OF LISTING

SPURT OUTPUT NO. 211

R.TEOSTE•4/9/65

PLOTP

PLOT	LOC	LABEL	LOC	LABEL	LOC	LABEL
A\$SSSS\$1111	00241	ASSSSSS1112	00242	ACQAZIM	63071	
ACQELEV	63075	ACQUI	63427	ACTUAL TIME	63142	
AQJ1	00210	AQJSTOP	00027	AQTABLE	00166	
AQJUSCASE	00157	AOSCN	63416	AESCN	63417	
ALNGOFFSET	63517	ARCOFAZIM	63524	ARCOFDEC	63526	
ARCOFFLEV	63522	ARCOFRA	63530	ASTROEC	63106	
ASTRORA	63105	AUPEREQUAT	63341	AZELTIME	63532	
AZELXSCAN	63500	AZIM	63053	AZIMOFFSET	63512	
AZIMOUT	64000	AZIMOVER	63325	AZIMADD	63442	
AZIMIN	75000	AZMTHSCAN	63501	BOOYSIZE	63462	
BLASTOFF	63146	COCON	63414	CONVERTIME	63135	
CORCT	63420	COSORIENT	63065	COSAXEL	63070	
CALCASE	00171	CAZIM	63060	CELBOY	63113	
CELCPGM	63424	CELEV	63061	CELTIME	63133	
CHCOR	63422	CHPAR	63431	CRANGE	63057	
CRSSOFFSET	63516	OOPPDUT	66000	OOPPADD	63444	
OATANALYZE	63425	OAY	63150	OEC	63003	
OECOFFSET	63515	OECOOT	63010	OECLENSCAN	63505	
OELTATE	63316	OSECONOS	63141	OUMSECTG	63154	
DYOMP	63421	ELEV	63054	ELEVOFFSET	63513	
ELEVOUT	65000	ELEVATO	63443	ELEVIN	76000	
ELYTN CAN	63502	ENOPLOT	00134	EQUATOR	63323	
ESTSHFTED	63143	EXPNAME	63350	FIRSTELV	63104	
FIRSTSTRU	63153	FLATTENING	63337	FRAMESIZE	63101	
FREQUENCY	63517	GOPLOTGO	00011	GEOLINEAT	63322	
GEODEFLAT	63321	GTMDOU24	63145	GMTSHIFTEO	63144	
HOLONHOLE	63511	HOURMINUTE	63137	HOURREG	63151	
HEIGHT	63326	1010RA010	66777	1011RA010	67776	
1012RA010	67777	1013RA010	70775	1014RA010	70776	
1015RA010	71776	1016RA010	71777	1017RA010	72776	
IDIBRAIO	72777	1019RA010	73776	101ICELCOR	63000	
101ENPNT	63410	101RADCOR	63050	101RA010	63440	
101RECRO	63210	101SYSEN	77576	101SYSNAM	77676	
101SYSPAR	63310	101TIME	63130	1020RA010	73777	
1021RA010	74776	1022RA010	74777	1023RA010	75776	
1024RA010	75777	1025RA010	76775	1026RA010	76776	
102CECOR	63001	102ENTPNT	63411	102RA010	63051	
102RA010	63441	102RECRD	63211	102SYSENT	77577	
102SYNAM	77677	102SYSPAR	63311	102TIME	63131	
103RA010	63776	104RA010	63777	105RA010	64776	
106RA010	64777	107RA010	65776	108RA010	65777	
109RA010	66777	108ZMA00	63446	1NELEVA00	63447	
INTER	63413	INTERAZIM	72000	INTERCOM	63426	
INTERDOPP	74000	INTERELEV	73000	INTERLKSW	63460	
INTERRANGE	76777	KPERNM	63342	KYBROLEVEL	63110	
LONGITUE	63320	LSPERAU	63336	MAINSWITCH	63334	
MCPFILER	71000	MCPGM	63412	MILLSTNA00	63451	
MINREG	63152	MSFREQ	63332	NMPERAU	63340	
POLE	63324	PCALCODE	00052	PERIODAZIM	63523	
PERIOOECL	63525	PERIOOLEV	00154	PERIORA	63527	
PLOT	00000	PLOTA	00050	PLOTRANS		

SPURT OUTPUT No. 211

R. TESTER 4/9/65

PLOTP	LOC	LABEL	LOC	LABEL	LOC
PLOTB	00156	PLOTCASE	00221	PLOTENO	00202
PLOTERORS	00105	PLOTHACK	00150	PLOTINIT	00302
PLOTINTER	00066	PLOTJPTAB	00141	PLOTM10	00211
PLOTP	63436	PLOTPATCH	00233	PLOTQ	00155
PLOTQUEST	00032	PLOTQUEST	00053	PLOTRJP	00065
PLOTSTOP	00152	PLOTVALUES	00101	PLOTWORD	00140
PLOTWORD1	00207	PLOTWORD11	00232	PLOTWORK	00216
PLANP	63434	PLITINCREM	00201	ROTATERAO	63461
PRLOG	63423	ROTATEAEBX	63507	ROTATERAO	63506
ROTATEROBX	63510	RA	63002	RAOFFSET	63514
RAOOT	63007	RAOARMOE	63312	RAOCBXSCAN	63503
RAOECDTIME	63531	RAOIOEC	63541	RAOIOMETER	63102
RAOIORA	63540	RAOIJUS	63006	RAOIJUSOOT	63011
RANGE	63052	RANGEOUT	70777	RANGEAOO	63445
RANGEOOT	63062	RASCNTNSCAN	63504	ROMTR	63430
ROXXX	63433	RECORDIZE	63112	RECAZIM	67000
RECELEV	70000	RECFILE	63212	RECRO	63415
RECROSWTCH	63155	RELEASESW	63156	SAZIM	63055
SCELTIME	63134	SOEC	63005	SECONOS	63140
SELEV	63056	SIOETIME	63012	SINORIENT	63064
SINAZEL	63066	SKIP	63331	SRA	63004
SRAOTIME	63136	SYNCTIMING	63542	SYSCOMMREG1	63452
SYSCOMMREG2	63453	SYSCOMMREG3	63454	SYSCOMMREG4	63455
SYSCOMMREG5	63456	SYSCOMMREG6	63457	SYSENTRIES	77600
SYSNAME5	77700	SYSTAT1	63313	SYSTAT2	63314
SYSTATO	63315	TIMECORR	63107	TIMEMOE	63103
TIMEMARK1	00144	TIMEP	63435	TIMETOHOL	63520
TRUE RANGE	63063	TRUE TIME	63132	TTYSTATUS	63111
TWSECOOP	63017	VELOFLIGHT	63335	VIZOEC1	63014
V1ZDEC2	63016	V1ZRA1	63013	V1ZRA2	63015
WFORD	63432	WFAD0	63450	WFREQ	63333
YEARMONTH	63147	YRTRAN	63327	ZRTRAN	63330

END OF LISTING

SPURT OUTPUT NO. 212  
R•TEOSTE•4/9/65

PLOTP	LOC	LABEL	LOC	LABEL	LOC
PLOT	00000	PLOTNIT	000002	GOPILOTG	000111
AJUSTOP	00027	PLOTQUEST	000032	PLOTANSW	000050
PCALCODE	00052	PLOQUIST	000053	PLOTRJP	000065
PLOTINTER	00066	PLOTVALUES	00101	PLOTERRRS	00105
ENOPLOT	00134	PLOTWORO	00140	PLOTJTAB	00141
TIMEMARKI	00144	PLOTHACK	00150	PLOTSTOP	00152
PLOTA	00154	PLOTQ	00155	PLOTB	00156
ADJUSTCASE	00157	AOUTABLE	00166	CALCASE	00171
PLTINCREM	00201	PLOTIENO	00202	PLOTWORD1	00207
AOJI	00210	PLOTM10	00211	PLOTWORK	00216
PLOTCASE	00221	PLOTWORD11	00232	PLOTPATCH	00233
A\$\$\$\$\$1111	00241	A\$\$\$\$\$1112	00242	10ICELCOR	630000
102CELCOR	63001	RA	63002	OEC	63003
SRA	63004	SOEC	63005	RAOIUS	63006
RAOOT	63007	OECOOT	63010	RAOIUSOOT	63011
\$10ERTIME	63012	V1ZRA1	63013	VIZOEC1	63014
V1ZRA2	63015	V1Z0EC2	63016	2WZEOCP	63017
10IRAOCOR	63050	102RAOCOR	63051	RANGE	63052
AZIM	63053	ELEV	63054	SAZIM	63055
SELEV	63056	CRANGE	63057	CAZIM	63060
CELEV	63061	RANGE00T	63062	TRUERANGE	63063
SINORIENT	63064	COSORIENT	63065	SINAZEL	63066
COSAZEL	63070	ACQAZIM	63071	ACQELEV	63075
FRAMESIZE	63101	RAOTOMETER	63102	TIME00E	63103
FIRSTELEV	63104	ASTRORA	63105	ASTROEC	63108
TIMECORR	63107	KYBROLEVEL	63110	TYST0E	63111
RECORDSIZE	63112	CELBOOY	63113	10ITIME	63130
102TIME	63131	TRUETIME	63132	CELTIME	63133
SCELTIME	63134	CONVERTIME	63135	SRA0EONOS	63136
HOURMINUTE	63137	SECONOS	63140	GMTSHIFTEO	63144
ACTUAL TIME	63142	ESTSHIFTEO	63143	YEARMONTH	63147
GMTMOOU24	63145	BLASTOFF	63146	MINREG	63152
DAY	63150	HOURREG	63151	RECROSNTCH	63155
FIRSTHUR	63153	QUMSECTTG	63154	102RECRO	63211
RELEASESW	63156	10IRECRO	63210	102SYSPAR	63311
RECFILE	63212	101SYSPAR	63310	SYSTAT2	63314
RAOARM00E	63312	SYSTA1	63313	AUPEREQUAT	63317
SYSTAT0	63315	OELITATE	63316	FREQUENCY	63317
LONGTUOE	63320	GEOOETLAT	63321	GEOCENLAT	63322
EQUATOR	63323	POLE	63324	AZIMOVER	63325
HEIGHT	63326	YRTRAN	63327	ZTRAN	63330
SKIP	63331	MSFREQ	63332	WFREQ	63333
MAINSWITCH	63334	VEOLFIGHT	63335	LSPERAU	63336
FLATTENING	63337	NMPERAU	63340	AUPEREQUAT	63341
KPERNM	63342	EXPNAME	63350	10IENTPNT	63410
10ZENTPNT	63411	MCPGM	63412	INTER	63413
COCON	63414	RECRO	63415	AOSCN	63416
AESCN	63417	CORCT	63420	OYOMP	63421
CHCOR	63422	PRLOG	63423	CELCOMPGR	63424
OATANALYZE	63425	INTERCOM	63426	ACQUI	63427
RDCTR	63430	CHPAR	63431	WFORO	63432

SPURT OUTPUT NO. 212

R. TEOSTE • 4/9/65

PLOTP	LOC	LABEL	LOC	LABEL	LOC	LABEL	LOC
ROXXX	63433	PLANP	63434	TIMEP	63435	I02RADIO	63441
PLOTP	63436	I01RADIO	63440	ODPAAO	63444		
AZIMADD	63442	ELEVADD	63443	INLEVADD	63447		
RANGEADD	63445	INAZIMADD	63446	SYSCOMRF61	63452		
WFADD	63450	MILLSTADD	63451	SYSCOMRG61	63455		
SYSCOMREG2	63453	SYSCOMRG63	63454	INTERLCKSW	63460		
SYSCOMREG5	63456	SYSCOMRG66	63457	AZELBSCAN	63500		
PREVIOUSTM	63461	BODYSIZE	63462	RAOCBXSCAN	63503		
AZMTHSCAN	63501	ELVNSCAN	63502	ROTATERAO	63506		
RASCNSCAN	63504	DECLINSCAN	63505	HOLONOHOLD	63511		
ROTATEAEBX	63507	ROTATERBX	63510	RAOFFSET	63514		
AZIMOFFSET	63512	ELEVOFFSET	63513	ALNGOFFSET	63517		
DECOFFSET	63515	CROSSOFFSET	63516	ARC0FELV	63522		
TIMETOHOLD	63520	PERIODLEV	63521	PERIODDE	63525		
PERIODAZIM	63523	ARCOFAZM	63524	ARC0FRA	63530		
ARCOFDEC	63526	PERIODEA	63527	RADIORA	63540		
RADECOTIME	63531	AZELOTIME	63532	ID3RADIO	63576		
RADIODEC	63541	SYNCTIMING	63542	IDSRADIO	64776		
ID4RADIO	63777	AZIMOUT	64000	ID7RADIO	65776		
ID6RADIO	64777	ELEVOUT	65000	ID9RADID	66776		
ID8RADIO	65777	DOPPOUT	66000	ID11RADIO	67776		
ID10RADIO	66777	RECAZIM	67000	ID13RADIO	70775		
ID12RADIO	67777	RECELEV	70000	MCPFILLER	71000		
ID14RADIO	70776	RANGEOUT	70777	INTERAZIM	72000		
ID15RADIO	71776	ID16RADIO	71777	INTERLEV	73000		
ID17RADIO	72776	ID18RADIO	72777	INTERDOPP	74000		
ID19RADIO	73776	I020RADIO	73777	AZMIN	75000		
I021RADIO	74776	I022RADIO	74777	ELEVIN	76000		
I023RADIO	75776	I024RADIO	75777	INTERRANGE	76777		
I025RADIO	76775	I026RADIO	76776	SYSENTRIES	77600		
ID1SYSENT	77576	ID2SYSENT	77577	SYSNAMES	77700		
I01SYSNAM	77676						

END OF LISTING

CARDS	L1 ID	LABEL	TA STATEMENT	S.J.WHITE#06/29/65	SPURT OUTPUT NO. 210 S.J.WHITE#06/29/65	LOC	F	JKB	Y	NOTES
	*	COCC0	LOGGING	PROGRAM S.J.WHITE#06/29/65		00000	00017	OCOC2		
	*	COCC1	LOGGING	U-TAG LOCWORK*LOCINIT		00001	25272	12414		
	*	COCC2		FD I*PRLNG		00002	61000	OCFC0		
	*	COCC3	LOGINIT	ENTRY		00003	70100	01161		
	*	COCC4		RPT 625D*AOV		00004	16030	0C456		
	*	COCC5		CL WSTKPLBK)		00005	12500	OCOC0		
	*	COCC6		CL 85*		00006	12600	OCOC0		
	*	COCC7		CL 86*		00007	11030	OC431		
	*	COCC8		ENT A*W(FDPRLUG)		00008	15036	0C5C2		
	*	COCC9		STR A*W(STACK01-2+B6)		00009	12606	0CU34		
	*	COCC10		ENT B6*B6-28D		00010	71500	0C023		
	*	COCC11		BSK B5*190		00012	61000	0C010		
	*	COCC12		JP \$-3		00013	61000	0C010		
	*	COCC13		STR A*W(EMRGAREA-2)		00014	15030	016C5		
	*	COCC14		TERM C3*OUTPUT		00015	67140	OCOC0		
	*	COCC15		EXIT		00016	61010	0C0C2		
	*	COCC16		ENTRY		00017	61000	OCOC0		
	*	COCC17		SIL RJP W\$AV		00018	64000	OCOC0		
	*	COCC18		PUT W\$INTRGO) *W(23)		00019	65000	0C272		SET INTERRUPT RETURN
	*	COCC19				00020	10030	00430		
	*	COCC20				00023	14030	0C023		
	*	COCC21				00024	12500	OCOC0		
	*	COCC22				00025	12320	01574		RESTORE INPUT INDEX
	*	COCC23				00026	12410	01574		RESTORE OUTPUT INDEX
	*	COCC24		CL 85		00027	11010	0C017		SET FWA AND NO. WORDS REG.
	*	COCC25		ENT B3*0(SAVEB)		00031	10030	OC031		
	*	COCC26		ENT B4*0(SAVEB)		00032	14030	01570		
	*	COCC27		ENT A*L(LOGWORK)		00033	36010	00017		
	*	COCC28		ENT A*L(\$+1)		00034	15010	OC035		
	*	COCC29		STR W(0)*W(NOWR0\$FWA)		00035	10030	OCOC0		
	*	COCC30		PUT W(0)*W(SBRSAP)		00036	14030	01571		
	*	COCC31				00037	36010	0C017		
	*	COCC32		RPL Y+1*L(LOGWORK)		00040	11430	01566		
	*	COCC33		STR A*L(\$+1)		00041	61000	0C167		
	*	COCC34		PUT W(0)*W(SBRSAP)		00042	11650	01571		IS THIS EMERGENCY DATA
	*	COCC35		RPL Y+1*L(LOGWORK)		00043	61000	00151	YES	
	*	COCC36		ENT A*W(CHANINACTV)*AZERO		00044	11510	631C2		
	*	COCC37		JP BUSY		00045	61000	OC050		
	*	COCC38		ENT A\$LX(SBPSAP)*AP0\$		00046	11760	01571		
	*	COCC39		JP EMEROUT		00047	61000	0C167		
	*	COCC40		ENT A*L(RADIOMETER)*AN0\$		00050	11423	0C456		
	*	COCC41		JP NORMP		00051	12303	77776		PICK UP FWA OF BUF TO BE FILLED
	*	COCC42		ENT A*\$UX(SBPSAP)*ANEG		00052	11013	0C432		
	*	COCC43		JP BUSY		00053	65000	CC356		MOVE DATA INTO PROPER BUF AREA
	*	COCC44		ENT A*U(STKPLBK+B3)*AZERO		00054	10030	01571		
	*	COCC45		ENT B3*B3-1		00055	14033	0C456		
	*	COCC46		ENT A\$L(STKPLBF+B3)		00056	713UC	CC023		STEP INPUT INDEX
	*	COCC47				00057	61000	OC060		
	*	COCC48				00060	1632C	01574		
	*	COCC49								
	*	COCC50								
	*	COCC51								
	*	COCC52								
	*	COCC53								
	*	COCC54								
	*	COCC55								

\*\*\*\*\* LOGGING \*\*\*\*\* SPURT OUTPUT NO. 210  
 S.J.WHITE\*06/29/65

CARDS	L1 TO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	COC56	CL U(PRNBY)	00061	16020	01573		CLEAR BUSY SWITCH
*	COC57	ENT A*L(PRNBY)*AZERO	00062	11410	01573		
*	COC60	JP \$+3	00063	61000	00066		
*	COC61	ENT A*(PGCNT)*ANOT	00064	11520	01563		
*	COC62	SEIFOUT	00065	61000	0C067		
*	COC63	JP NORMLEAVE	00066	61000	00164		
*	COC64	SEEFCUT	00067	11514	0C456		IS THIS A TOP REQUEST
*	COC65	ENT A*(STKPLBK+B4)*ANOT	00070	61000	0C117		
*	COC66	JP NOTTOP	00071	11010	01563		NO
*	COC67	ENT A*(PGCNT)	00072	21600	000C3		YES IS THERE 63 OR LESS LINES TO B
		SUB A*3*APOS					E SKI+
	COC7C	JP ISNEGATIVE	00073	61000	001C7		NO MORE
*	COC71	RPL Y+1*U(PGCNT)	00074	36020	01563		SET NO OUTPUT UNTILL TOP
*	COC72	ENT A*660	00075	11000	001C2		PAX LINES
*	COC73	SUB A*(PGCNT)	00076	21010	01563		HOW MANY LINES TO TOP
*	COC74	CL U(CURRENTSAP)	00077	16010	01567		
*	COC75	PUT W(SAPBFCAT)*W(PRNDT)	00077	10030	0C426		SET FAKE OUTPUT
	COC76	RJP SETSBPSAP	00101	14030	01572		
*	COC77	CL L(STKPLBK+B4)	00102	65000	00312		SET SBP
*	C0100	RJP PRINTINFO	00103	16014	0C456		CL TOP MARK
*	C0101	RPL Y+1*L(PRNBY)	00104	65000	0C322		INITIATE TOP
*	C0102	JP NORMLEAVE	00105	36010	01573		SET G NO OUTPUT UNTILL TOP
*	C0103	ISNEGATIVE	00106	61000	0C164		
*	C0104	ENT A*(PGCNT)	00107	11010	01563		
*	C0105	ADC A*630	00110	20000	0C077		
*	C0106	STR A*(CURRENTSAP)	00111	15010	01567		
*	C0107	ENT A*660	00112	11000	001C2		
*	C0108	RPL A-Y*L(CURRENTSAP)	00113	25010	01567		
*	C0109	RPL Y+1*U(RGENT)	00114	36020	01563		
*	C0110	ENT A*630	00115	11000	0C077		
*	C0111	JP UPSET	00116	61000	001C0		
*	C0112	ENT A*UX(L(STKPLBK+B4)*AZERO	00117	11464	00456		
*	C0113	NUTTCP	00120	61000	00126		
*	C0114	JP FOUND	00121	71400	00023		
*	C0115	BSK B4*190	00122	61000	0C123		
*	C0116	JR \$+1	00123	71500	00023		
*	C0117	BSK B5*190	00124	61000	0C117		
*	C0120	JP NCTTUP	00125	61000	0C136		
*	C0121	JP BEFU	00126	10034	0C432		
*	C0122	PUT W(STKPLBK+B4)*W(RQNOT)	00127	1403C	01572		
*	C0123	RJP SETSBPSAP	00130	65000	0C312		SET UP SPACE BEFORE PRINT
*	C0124	RJP PRINTINFO	00131	65000	0C322		PRINT INFORMATION
*	C0125	JP CHANACTV	00132	61000	0C140		CHAN ACTIVE COULD NOT PRINT
*	C0126	CL U(STKPLBK+B4)	00133	16024	0C456		CLEAR SBP MARK BUFF JUST EMPTY
*	C0127	RUT W(STKPLBK+B4)*W(CURRENTSAP)	00134	10034	00456		
*	C0130	B4*190	00135	1403C	01567		
*	C0131	BSK \$+1	00136	71400	0C023		INDEX OUTPUT
*	C0132	STR B4*L(SAYER)	00137	61000	0C140		
*	C0133	ENT A*(PRNBY)*ANOT	00140	16410	01574		SAVE OUTPUT INDEX
*	C0134	JP NORMLEAVE	00141	11520	01573		
*			00142	61000	0C164		YES NORMAL RETURN

CARCS		L1 ID	LABEL	TA STATEMENT	SPURT	OUTPUT	NO.	210	.....
					LOC	F	JKB	Y	NOTES
*	C0135			CL U(PRNBY) ENT A•W(BUSYRTN)•AZERO CL W(BUSYRTN) ENT A•O CL W(BUSYRTN)	00143 00144 00145 00146	16020 11430 11040 16030	01573 01565 77777 01565		
*	C0136			RJP WKRST0 RILJP LLOGNRK STR B•CPW(EMERSW) ENT A•UX(SBPSAP) RJP SETSBPSAP ENT A•L(EMERBUF)	00147 00150 00151 00152 00153	65000 60110 0C017 01562 0C312	0C4C2 0C017 01571 01571 00427		SET SBP MOVE EMERGENCY DATA INTO BUF A REA
*	C0137				00154	11010	0C427		MOVE EMERGENCY DATA INTO BUF A
*	C0140				00155	65000	00356		
*	C0141				00156	10030	0C427		SET UP TO UPUTPUT EMERGENCY DAT A
*	C0142				00157	14030	01572		
*	C0143	E MERCUT		RJP PPNTINFO RPL Y+I•L(PRNBY) PUT W(SRPSAP)•W(CURRENTSAP)	00160 00161 00162	65000 36010 10030	00322 0C01C 01573		OUTPUT EMERGENCY DATA NO OUTPUT CHAN ACTIV
*	C0144			RPL Y+I•L(LLOGNRK) RJP WKRSTU RILJP LLOGNRK RPL Y+I•W(BUSYRTN)•SKIP CL W(BUSYRTN) RPL Y+I•U(PRNBY)	00163 00164 00165 00166 00167 00170 00171	14030 36010 65000 60110 36130 16030 36020	0C017 0C017 0C017 0C017 01565 01565 01573		
*	C0145				00172	16030	01566		
*	C0146				00173	61000	00067		NO TRY OUTPUT NORMAL DATA
*	C0147				00174	61000	0C000		
*	C0150				00175	65000	0C260		SAVE CONTENTS
*	C0151				00176	16030	01575		CLEAR PRINTER BUSY SWITCH
*	C0152				00177	17170	01576		STORE CHANNEL
*	C0153				00200	11020	01576		
*	C0154	NCRMLAVE		RPL W(CHANINACTV) CL SEEIFUUT ENTRY RJP SAVEALL CL W(INTRUCC) STR C3•W(SAVECHAN) ENT A•U(SAVECHAN) RSH A•LL SUB A•I••ANOT JP SOK PUT I•W(CHANINACTV)	00201 00202 00203 00204 00205 00206 00207 00208 00209 00210	U200C 00013 00010 00000 00000 00000 00000 00000 00000 00000	01566 0C000 0C260 01575 01576 00013 00010 00217 00000 00000		
*	C0155				00211	14010	01574		
*	C0156	BLSY		RPL Y-1•L(SAVEEB)•ANEG JP S+3 PUT I•U(STKPLBK+B4)	00212 00213 00214 00215	12410 10000 14024 67140	01574 0C001 0456 0C000		
*	C0157	BUSYX			00216	61000	0C232		
*	C0161				00217	16030	01566		
*	C0162				00218	37710	01574		
*	C0163	LOGINT			00219	14030	01566		
*	C0164				00220	11410	01573		WAS CHAN ACTV LAST OUTPUT ATTE
*	C0165				00221	61000	0C254	MPT	
*	C0166				00222	11550	01567	YES	
*	C0167				00223	61000	0C234	NO	
*	C0170								
*	C0171								
*	C0172								
*	C0173								
*	C0174								
*	C0175								
*	C0176								
*	C0177								
*	C02CC								
*	C02C1								
*	C02C2								
*	C02C3	SCK		TERM C3•OUTPUT JP GHOUT CL W(CHANINACTV) ENT A•L(PRNBY)•AZERO					
*	C02C4								
*	C02C5								
*	C02C6			PRTNOW ENT A•L(CURRENTSAP)•ANOT JP STADOUT	00221 00222 00223	61000 11550 61000	0C254 01567 0C234		
*	C02C7								
*	C0210								

\*\*\*\*\* SPURT OUTPUT NO. 210  
S. J. WITTC • C6/29/65

CARD	L1 TO LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
C0211		RJP SETSBPSAP	00224	65000 CC312	SET UP EMER SAP
C0212		PUT W(SAPFUNC)•W(PRNOTE)	00225	10030 0C426	SET UP DUMMY OUTPUT
C0213		RJP PRINTINFO	00226	14030 01572	EXECUTE SAP
C0214		NO-OP	00227	00322	NO BUSY RETURN
C0215		CL W(CURRENTSAP)	00230	12000 00000	
C0216	GFCUT	RJP RCSTOALL	00231	16030 01567	RESTORE OLD CONTENTS
C0217		RILJP LILUGINTR	00232	65000 0C265	
C0220	STAOCUT	CNT B4•L(SAVEB)	00233	60110 00174	RIL EXIT
C0221		ENT A•X(STKPLBK+B4)•A•QOT	00234	12410 01574	
C0222		JP WIFFEL	00235	11564 0C456	
C0223	NOPRNTSAP	RJP SETSBPSAP	00236	61000 00252	
C0224		PUT W(STKPLBK+B4)•W(PRNOTE)	00237	00312	SET PRINT OUTPUT FROM BUF
C0225		RJP PRINTINFO	00240	10034 0C432	
C0226		NO-OP	00241	14030 01572	
C0227		CL U(PGCNT)	00242	65000 0C322	
C0230		CL U(STKPLBK+B4)	00244	16020 00000	NO BUSY RETURN
C0231		PUT W(STKPLBK+B4)•W(CURRENTSAP)	00245	16024 04556	CL SPP
C0232		BSK B4•190	00246	10034 00456	
C0233	WIFFEL	JP \$+1	00247	14030 01567	INCREMENT OUTPUT INDEX
C0234	WIFFEL	STR B4•L(SAVEB)	00250	71400 0C023	
C0235		JP GHOT	00251	61000 00252	
C0236	PRTNCH	RJP PRINTINFO	00252	16410 01574	
C0237		NO-OP	00253	61000 0C232	
C0240		CL U(PRNAY)	00254	650000 0C322	
C0241		JP GHOT	00255	12000 00000	
C0242	SAVEALL	ENTRY	00256	16010 01573	
C0243		STR A•W(LISAVE)	00257	61000 0C232	
C0244		STR Q•W(LISAVE+1)	00260	61000 00000	
C0245		STR B4•U(LISAVE+2)	00261	15030 01577	
C0246		EXIT	00262	14030 016C0	
C0247	RESTCALL	ENTRY	00263	16420 01601	
C0250		CNT A•W(LISAVE)	00264	61010 00260	
C0251		ENT Q•W(LISAVE+1)	00265	61000 00000	
C0252		ENT B4•U(LISAVE+2)	00266	11030 01577	
C0253		EXIT	00267	10030 016C0	
C0254	WKSAV	ENTRY	00270	12420 016C1	
C0255		STR B6•L(LISAVE+2)	00271	61010 00265	
C0256		STR A•W(LISAVE+3)	00272	61000 00000	
C0257		STR Q•W(LISAVE+4)	00273	16610 016C1	
C0260		STR B3•U(LISAVE+5)	00274	15030 016C2	
C0261		STR B4•L(LISAVE+5)	00275	14030 016C3	
C0262		STR B5•U(LISAVE+6)	00276	16320 016C4	
C0263		EXIT	00300	16520 016C5	
C0264	WKRCSTC	ENTRY	00301	61010 00272	
C0265		CNT B6•L(LISAVE+2)	00302	61000 00000	
C0266		ENT A•W(LISAVE+3)	00303	12610 016C1	
C0267		ENT Q•W(LISAVE+4)	00304	11030 016C2	
C0270		ENT B3•U(LISAVE+5)	00305	10030 016C3	
C0271		ENT B4•L(LISAVE+5)	00306	12320 016C4	
C0272		ENT B5•U(LISAVE+6)	00307	12410 016C4	
			00310	12520 016C5	

CAROS	LI TO LABEL	TA STATEMENT	SPURT OUTPUT NO. 210				NOTES
			LOC	F	JKB	Y	
	LOGGING		S.J.WHITE*06/29/65				
C0273		EXIT	00311	61010	0C3C2		
C0274	SETBPSAP	ENTRY	00312	61000	0CC00		
C0275		ENT A*APOS	00313	11670	0CC00	WAS A REG NEG	
C0276		CP A*	00314	15040	0CC00		
C0277		STR A*LISAVFOWL	00315	15010	01564		
C0300		LSH A*3	00316	06000	0CC03	SET U(PRINTER)	
C03C1		ADO A*12000	00317	20000	12000		
C03C2		STR A*U(PRINTER)	00320	15020	0C424	EXIT	
C03C3	PINTINFO	EXIT	00322	61010	0C312		
C03C4		ENTRY	00323	61000	0CC00	IS CHANNEL BUSY	
C03C5		BSK BO*NINTROCC)	00324	71030	01575		
C03C6		JP ACTVRTRN	00324	61000	0C344	YES BUSY RETURN	
C03C7		JP ACTVRTRN*C3*ACTIVEOUT	63140				
C0310		EX-FCI C3*W(PRINTER)	00326	13170	0C424		
C0311		NO-OP	00327	12000	0CC00		
C0312		CUT C3*A*(PRNOTE)	00330	74170	01572		
C0313		ENT A*LISAVFOWL)	00331	11010	01564		
C0314		ADD A*LPGCNT)	00332	20010	01563		
C0315		SUB A*650*ANOT	00333	21500	0C1C2		
C0316		JP TOOBIG	00334	61000	00341		
C0317		ENT G*A*NEG	00335	10770	0CC00		
C0320		JP TOOBIG	00336	61000	0C341		
C0321		ENT A*LISAVFOWL)	00337	11010	01564		
C0322		ADD A*LPGCNT)	00340	20010	01563		
C0323	TICCBIG	STR A*LPGCNT)	00342	16070	01563	SET CHANNEL BUSY	
C0324		STR BO*CPW(NINTRCC)	00343	36010	00322		
C0325		RPL Y+1*(PRNTINFO)	00344	10030	01572	NORMAL RETURN	
C0326	ACTVRTRN	ENT G*W(PRNOTE)	00345	27000	00042		
C0327		SUB Q*2	00346	70100	00046		
C0330		RPT 38D*A0V	00347	11430	63226		
C0331		ENT A*WRECFILE+120)*AZERO	00350	61000	00355		
C0332		JP FULLUP	00351	11007	0CC00		
C0333		ENT A*B7	00352	20000	0C046		
C0334		ADO A*380	00353	12770	0CC00		
C0335		ENT B7*A	00354	14037	63226		
C0336		STR C*W(RFCFILE+120+B7)	00355	61010	0C322		
C0337	FULLUP	EXIT	00356	61000	0CC00		
C0340	MCVECAT	ENTRY	00357	71030	01562		
C0341		BSK BO*W(EMERSW)	00360	61000	0C366		
C0342		JP ISEMER	00361	10003	0C432		
C0343		ENT G*SICKPLBF+B3	00362	14010	0C6C4		
C0344		STR G*L(INPUT1)	00363	14010	01406		
C0345		STR G*L(INPUT2)	00364	14010	01411		
C0346		STR G*L(WHERE+1)	00365	61000	01372		
C0347		JP ISEMER+4	00366	10000	0C427		
C035C	I SEMER	ENT G*EFFERBUF	00367	14010	01404		
C0351		STR G*L(INPUT1)	00370	14010	0C4C6		
C0352		STR G*L(INPUT2)	00371	14010	01411		
C0353		CL B6*	00372	12600	0CC00		
C0354		STR A*LLOADCONT+1)	00373	15010	01417		
C0355		ADD A*UNWROSSFWA)	00374	20020	01570	ADD NO. WORDS TO FWA TO BE FILL	EO

SPURT OUTPUT NO. 210  
S.J.WHITIE\*06/29/65

CARDS	LL ID LABEL	TA STATEMENT	LOC	F JK <sub>B</sub> Y	NOTES
	C0357	STR A*L(WHERE+3) ENT A*UNWRSFWA)	00375	15010 00413	
	C0360	SUB A*1	00376	11020 01570	
	C0361	STR A*L(BSKWRS)	00377	21000 000C1	SET UP BSK NO. WROS TO BE PICK
	C0362		00400	15010 00420	ED UP
	C0363	SUB A*250*ANOT	00401	21500 0C031	
	C0364	JP \$+2	00402	61000 0C4C4	
	C0365	JP WHERE	00403	61000 0C410	
	C0366	ENT Q*L(O)	00404	10010 0COCO	
	C0367	ACD Q*250	00405	26000 0C031	
	C0370	STR Q*U(O)	00406	14020 0COCO	
	C0371	JP GETFWA	00407	61000 00414	
	C0372	PUT L(\$+3)*U(0)	00410	10010 00413	
	C0373	PUT -0•W(0)	00411	14020 0COCO	
	C0374	PUT L(NOWRSFWA)*L(\$+1)	00412	10040 77777	
	C0375	PUT W(0+B6)*W(0+B6)	00413	14030 0COCO	
			00414	10010 01570	SET FWA WHERE TO FIND DATA
			00415	14010 0C416	LOAD DATA IN PROPER BUFFER ARE
			00416	10036 0COCO	A
	C0376	BSKWDSD	00417	14036 0CCCO	
	C0377	JP LOADCONT	00420	71600 0COCO	
	C0400	CL W(FEWRSW)	00421	61000 00416	
	C04C1	EXIT	00422	16030 01562	
	C04C2	PRINTER 1201C 1	00423	61010 0C356	
	C04C3	SAPPNT -0 -0	00424	1201C 0CDC1	
	C04C4	SAPPFCNT U-TAG SAPPNT	00425	77777 77777	
	C04C5	EMERBUF U-TAG EMRCAREA+25D*EMRGAREA	00426	00425 00425	
	C04C6	INTRCC RJP LOCINR	00427	01640 016C7	
	C04C7	FCPRLIC FO O*PRNG	00430	65000 0C174	
	C041C	STKPLEF U-TAG STACKU1+25D*STACK01	00431	25272 12414	
	C0411	U-TAC STACK02+25D*STACK02	00432	00535 005C4	
	C0412	U-TAC STACK03+25D*STACK03	00433	00571 00540	
	C0413	U-TAC STACK04+25D*STACK04	00434	00625 0C574	
	C0414	U-TAC STACK05+25D*STACK05	00435	00661 0C630	
	C0415	U-TAC STACK06+25D*STACK06	00436	00715 0C664	
	C0416	U-TAC STACK07+25D*STACK07	00437	00751 0C720	
	C0417	U-TAC STACK08+25D*STACK08	00440	01005 00754	
	C042C	U-TAC STACK09+25D*STACK09	00441	01041 01010	
	C0421	U-TAC STACK10+25D*STACK10	00442	01075 01044	
	C0422	U-TAC STACK11+25D*STACK11	00443	01131 011C0	
	C0423	U-TAC STACK12+25D*STACK12	00444	01165 01134	
	C0424	U-TAC STACK13+25D*STACK13	00445	01221 01170	
	C0425	U-TAC STACK14+25D*STACK14	00446	01255 01224	
	C0426	U-TAC STACK15+25D*STACK15	00447	01311 01260	
	C0427	U-TAC STACK16+25D*STACK16	00450	01345 01314	
	C0430	U-TAC STACK17+25D*STACK17	00451	01401 01350	
	C0431	U-TAC STACK18+25D*STACK18	00452	01435 014C4	
	C0432	U-TAC STACK19+25D*STACK19	00453	01471 01440	
	C0433	U-TAC STACK20+25D*STACK20	00454	01525 01474	
	C0434	RESERVE 20D	00455	01561 01530	
	C0435	RESERVE 2	00456	0C000 0C000	
			00502	00000 0C000	

SPURT OUTPUT NO. 210  
S.J. WHITE•06/29/65

CARDS	LI TO LABEL	TA STATEMENT	LOC	F JKA Y	NOTES
*	CU436 STACKC1	RESERVE 260	00504	00000 00000	
*	CU437	RESERVE 2	00536	00000 00000	
*	CO440 STACKC2	RESERVE 260	00540	00000 00000	
*	CO441	RESERVE 2	00572	00000 00000	
*	CO442 STACKC3	RESERVE 260	00574	00000 00000	
*	CO443	RESERVE 2	00626	00000 00000	
*	CO444 STACKC4	RESERVE 260	00630	00000 00000	
*	CO445	RESERVE 2	00662	00000 00000	
*	CO446 STACKC5	RESERVE 260	00664	00000 00000	
*	CO447	RESERVE 2	00716	00000 00000	
*	CO450 STACKC6	RESERVE 260	00720	00000 00000	
*	CO451	RESERVE 2	00752	00000 00000	
*	CO452 STACKC7	RESERVE 260	00754	00000 00000	
*	CO453	RESERVE 2	01006	00000 00000	
*	CO454 STACKC8	RESERVE 260	01010	00000 00000	
*	CO455	RESERVE 2	01042	00000 00000	
*	CO456 STACKC9	RESERVE 260	01044	00000 00000	
*	CO457	RESERV 2	01076	00000 00000	
*	CO460 STACK1C	RESERV 260	01100	00000 00000	
*	CO461	RESERV 2	01132	00000 00000	
*	CO462 STACK11	RESERV 260	01134	00000 00000	
*	CO463	RESERV 2	01166	00000 00000	
*	CO464 STACK12	RESERV 260	01170	00000 00000	
*	CO465	RESERV 2	01222	00000 00000	
*	CO466 STACK13	RESERV 260	01224	00000 00000	
*	CO467	RESERV 2	01256	00000 00000	
*	CO470 STACK14	RESERV 260	01280	00000 00000	
*	CO471	RESERV 2	01312	00000 00000	
*	CO472 STACK15	RESERV 260	01314	00000 00000	
*	CO473	RESERV 2	01346	00000 00000	
*	CO474 STACK16	RESERV 260	01350	00000 00000	
*	CO475	RESERV 2	01402	00000 00000	
*	CO476 STACK17	RESERV 260	01404	00000 00000	
*	CO477	RESERV 2	01436	00000 00000	
*	CO500 STACK18	RESERV 260	01440	00000 00000	
*	CO5C1	RESERV 2	01472	00000 00000	
*	CO5C2 STACK19	RESERV 260	01474	00000 00000	
*	CO5C3	RESERV 2	01526	00000 00000	
*	CO5C4 STACK20	RESERV 260	01530	00000 00000	
*	CO5C5 ERSW	C 0	01562	00000 00000	
*	CO5C6 PCNT	C 0	01563	00000 00000	
*	CO5C7 SAVFCWL	C C	01564	00000 00000	
*	CO5C8 BLSYRTRN	C O	01565	00000 00000	
*	CO511 CHANINACTV	C O	01566	00000 00000	
*	CO512 CURRENTSAP	C O	01567	00000 00000	
*	CC513 NCWRCSFWA	C C	01570	00000 00000	
*	CO514 SBPSAR	C C	01571	00000 00000	
*	CO515 P FNOT	C O	01572	00000 00000	
*	CO516 PRBY	C C	01573	00000 00000	
*	CO517 S AVEB	C O	01574	00000 00000	
*	CO520 INTROCC	C O	01575	00000 00000	
*	CO521 S AVECHAN	C O	01576	00000 00000	
*	CO522 I SAVE	RESERVE	01577	00000 00000	

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***** LOGGING ***** SPURT OUTPUT NO. 210 *****
S.J.WHITIE 06/29/65

CARDS    L1 TO LABEL    TA STATEMENT      LOC      f   JKB Y   NOTES
        C0523             RESERVE          2         01605 00000 00000
        *     C0524             RESERVE          260       01607 00000 00000
        *     C0525             NO-UP           0         01641 1200C 00000  DUMMY
END CF LISTING

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SPURT OUTPUT NO. 211

S.J.WHITE•06/29/65

LOGGING

LABEL	LOC	LABEL	LOC	LABEL	LOC
ACQAZIM	63071	ACQUELV	63075	ACQUI	63027
AESNATIME	63142	ACTVRTRN	00344	ADSCN	63416
AESNCFSET	63417	ALNGOFSET	63517	ARCFAZIM	63524
ARCCDEC	63526	ARCOFLEV	63522	ARCOFRA	63530
ASTRODEC	63106	ASTROA	63105	AUPEREQUAT	63341
AZELTIME	63532	AZELXSCAN	63500	AZIM	63053
AZIMOFFSET	63512	AZIMOUT	64000	AZIMOVER	63325
AZIMADD	63442	AZIMIN	75000	AZMTHSCAN	63501
BODYSIZE	63462	REFD	00136	BLASTOFE	63146
BSKWDNS	00420	BUFY	00167	BUSYRTRN	01565
BUSYX	00170	CUCON	63414	CONVERTIME	63135
CCRCT	63420	CUSORIENT	63065	COSAZEL	63070
CAZIM	63060	CELBODY	63113	CELCOMPBM	63424
CELEV	63061	CELTIME	63133	CHANACTV	00140
CHANINACTV	01566	CHCOR	63422	CHPAR	63431
CHANGE	63057	CROSSOFFSET	63516	CURRENTSAP	01567
DCPPOUT	66000	DOPPADD	63444	DATANALYZE	63425
DAY	63150	DEC	63003	DECOSSET	63515
CECCOT	63010	DECLINSCAN	63505	DELTATE	63316
DSECONDS	63141	DUMSEC TTG	63154	DYDMP	63421
ELEV	63054	ELEVFFSET	63513	ELEVOUT	65000
ELEVADD	63443	ELLEVIN	76000	ELVNSCAN	63502
EMEROUT	00151	EMERBUF	00427	EMERSW	01562
EMRGAREA	01607	EQUATOR	63323	ESTSHTEED	63143
EXPNAME	63350	FOUND	00126	EOPRLOG	00431
FIRSTTELEV	63104	FIRSTTHR	63153	FLATTENING	63337
FRAMESIZE	63101	FREQUE NY	63317	FULLUP	00355
GECCENLAT	63322	GEUDETTLT	63321	GETEMA	00414
GHCUT	00232	GMTMOD U24	63145	GMTTHIETED	63144
HCLCNHCLC	63511	HOURMINUTE	63137	HOURLNG	63151
HEIGHT	63326	ID10RADIO	66777	ID11RAD10	67776
ID12RAD10	67777	ID13RAD10	70775	ID14RAD10	70776
ID15RAD10	71776	ID16RAD10	71777	ID17RAD10	72776
ID18RAD10	72777	ID19RAD10	73776	ID1CELCOR	63000
ID24RAD10	75777	ID25RAD10	76775	ID1RAD10	63440
ID1ENPNT	63410	ID1RADCOR	63050	ID1RAD10	63151
ID1EREC	63210	ID1SYSTEM	77576	ID1SYSNAM	77676
ID1SYSPAR	63310	ID1TIME	63130	ID2RAD10	73777
ID21RAD10	74776	ID22RAD10	74777	ID2RAD10	75776
ID24RAD10	75777	ID25RAD10	76775	ID2RAD10	76776
ID2CEC1UR	63001	ID2ENTPN1	63411	ID2RADCOR	63051
ID2RADIC	63441	ID2RECORD	63211	ID2SYSENT	77577
ID2SYSNAM	77677	ID2SYSPAR	63311	ID2TIME	63131
ID3RAD10	63776	ID4RAD10	63777	ID5RAD1U	64776
ID6RAD10	64777	ID7RAD10	65776	ID8RAD1U	65777
ID9RAD10	66776	INAZIMADD	63446	INELEVADD	63447
INTER	63413	INTERAZIM	72000	INTERCOM	63426
INTERDOPP	74000	INTERELEV	73000	INTERCLKSW	63460
INTERRANGE	76777	INTROC	01575	INTRGO	00430
ISAVE	01577	ISEMER	00366	ISNEGITIVE	00107
KPER4M	63342	KYBROEVEL	63110	LOADCONT	00416
LCGGING	00000	LOGINIT	00002	LOGINTR	00174

SPURT OUTPUT NO. 211

LOGGING

S.J.WHITE\*06/29/65

LABEL	LOC	LABEL	LOC	LABEL	LOC	LOC	LABEL	LOC
LCGWORK	C0017	LONGITUDE	63320	LSPERAU	63336			
MCVDATA	00356	MAINSWITCH	63334	MCPFILLER	71000			
PCPGM	63412	MILLSTADT	63451	MIREG	63152			
SFREQ	63332	NOPRNTSAP	00237	NORMALAVE	00164			
NCMP	CCC50	NOTTOP	00117	NOROSWIA	01570			
NPERAU	63340	POLE	63324	PERIODAZIM	63523			
PERIODEC	63525	PERIODLEV	63521	PERIODRA	63527			
PGCNT	01563	PLOTP	63426	PLANP	63434			
PREVIOUS	63461	PRINTER	00424	PRLOG	63423			
PRNCT	C1572	PRNBY	01573	PRINTINFU	00322			
PRNINW	C0254	PUTI	00404	PUT2	00406			
RCTATEAEPX	63507	ROTATERDN	63506	ROTATERDBX	63510			
RA	63C02	RAOFFSET	63514	RAOOT	63007			
RADARMODE	63312	RADCBXSCAN	63503	RADECOTIME	63531			
RADIODEC	63504	RADIOMETER	63102	RADIORA	63540			
RADIUS	63006	RADIUS001	63011	RANGE	63052			
RANGEOUT	70777	RANGEADD	63445	RANGEDIJ	63062			
RASCINSCAN	63504	RDTR	63430	ROXXX	63433			
RECCROSZE	63112	RECAZI	67000	RECELEV	70000			
RECFILE	63212	RECRL	63415	RECDSWITCH	63155			
RELEASES	63156	RESTALL	00265	SOK	00217			
SAPBENT	00426	SAPPRT	00425	SAVEALL	00260			
SAVEB	01574	SAVECHAN	01576	SAVFOWL	01564			
SAZIM	63055	SBPSAP	01571	SCETIME	63134			
SDEC	63005	SECOND	63140	SEEFOUJ	00067			
SELEV	63056	SETSBPSAP	00312	SIDERTIME	63012			
SINCRIENT	63C64	SINAZEL	63066	SKIP	63331			
SRA	63004	SRADTIME	63136	STACK01	00504			
STACK02	C0540	STACK03	00574	STACK04	00630			
STACK05	00664	STACK06	00720	STACK07	00754			
STACK08	01C10	STACK09	01044	STACK10	01100			
STACK11	01134	STACK12	01170	STACK13	01224			
STACK14	01260	STACK15	01314	STACK16	01350			
STACK17	01404	STACK18	01440	STACK19	01474			
STACK20	01530	STADDUT	00234	STKPLBF	00432			
STKPLRK	00456	SYNCTIMING	63542	SYSCOMREG1	63452			
SYSCOMREG2	63453	SYSCOMREG3	63424	SYSCOMREG4	63455			
SYSCOMREG5	63456	SYSCOMREG6	63427	SYSTRIES	77600			
SYSNAAMES	77700	SYSTAT1	63313	SYSTAT2	63314			
SYSTAD	63315	TOOBIG	00341	TIMECORR	63107			
TIMEDEC	63103	TIMEP	63435	TIMEHOLD	63520			
TRUE RANGE	63G63	TRUE TIME	63132	TTYSTATUS	63111			
TWCSEDCP	63017	UPSET	00100	VEOLFLIGHT	63335			
VIZDFCI	63C14	VIZDEC2	63016	VIZRA1	63013			
VITRA2	63015	WFORD	63432	WFADD	63450			
WFREQ	63333	WHERE	00410	WIFFEL	00252			
WKSATC	C0302	WKSAV	00272	YEARMONTH	63147			
YRTRAN	63337	ZRTRAN	63330					

SPURT OUTPUT NO. 212

S.J.WHITIE•06/29/65

LABEL	LCC	LOC	LABEL	LOC
LOGGING	COCUU	00002	LOGWORK	00017
NCMP	COC>O	00067	UPSET	00100
ISNEGATIVE	C0107	00117	FOUND	00126
BEFC	C0136	00140	EMEROUT	00151
NCRMLAVE	C0164	00167	BUSYX	00170
LOGINTR	C0174	00217	GHOFT	00232
STADOUT	C0234	00237	WIFFEL	00252
PRNTNOW	C0254	00260	RESTUALL	00265
WKSAV	00272	00302	SETSBSAP	00312
PRNTINFO	00322	00341	ACTVRTRN	00344
FULLUP	00355	00356	ISEMER	00366
PUT1	00404	00406	WHERE	00410
GETFWA	C0414	00416	BSKWRDS	00420
PRINTER	C0424	00425	SAPBFCNF	00426
EMERBUF	C0427	00430	FDPRLG	00431
STKPLBF	00432	00456	STACK01	00504
STACK02	C0540	00574	STACK04	00630
STACK05	C0664	00720	STACK07	00754
STACK08	C1010	01044	STACK10	01100
STACK11	01134	01170	STACK13	01224
STACK14	01260	01314	STACK16	01350
STACK17	01404	01440	STACK19	01474
STACK20	01530	01562	PGCNT	01563
SAVFOWL	01564	01565	CHANINACTV	01566
CURRENT SAP	C1567	01570	SBSAP	01571
PRNCT	01572	01573	SABEV	01574
INTROCC	01575	01576	ISAVE	01577
EMRGAREA	01607	63000	ID2CELCOR	63001
RA	63002	63003	SRA	63004
SDEC	63C05	63006	RADUT	63007
DECDCOT	63C10	63011	SIDERTIME	63012
VIZRAL	63013	63014	VIZRA2	63015
V17CEC2	63C16	63017	IDIRADCOR	63050
ID2RADCOR	63051	63052	AZIM	63053
ELEV	63D54	63055	SELEV	63056
CHANGE	63057	63060	CELEV	63061
RANGE01	63062	63U63	SINORIENT	63064
CCSRIENT	63C65	63066	SIAZEL	63070
ACQAZIM	63071	63U75	FRAME SIZE	63101
RADIOMETER	63102	63103	FIRSTLEV	63104
ASTRORA	631U5	63106	TIMECORR	63107
KYBROLEVEL	63110	63111	RECORDSIZE	63112
CELBDY	63113	63130	ID2TIME	63131
TRUETIME	63132	63133	SCLTIME	63134
CONVERT TIME	63135	63136	HOURMINUTE	63137
SECONDS	63140	63141	ACTUALTIME	63142
ESTSHIFTEC	63143	63144	GMTMOD24	63145
BLASTOFF	63146	63147	DAY	63150
HCURREG	63151	63152	FIRSTTHRU	63153
DUMSECTIG	63154	63155	RELEASESW	63156
IDIRECORD	63210	63211	RECFILE	63212

SPURT OUTPUT NO. 212

LOGGING

S.J.WHITTE\*06/29/65

LABEL	LOC	LABEL	LOC	LABEL	LOC
ICLISYSPAR	6331U	ID2SYSPAR	63311	RADARMODE	63312
SYSTAT1	63313	SYSTAT2	63314	SYSTAD	63315
DELTATEE	63316	FREQUECY	63317	EQUATDE	63320
GEODETLAT	63321	GEDCENLAT	63322	EQUATUR	63323
PCLL	63324	AZIMOVER	63325	HEIGHT	63326
YRTRAN	63327	ZRTRAN	63330	SKIP	63331
MFREQ	63332	WFREQ	63333	MAINSWITCH	63334
VELCFLIGHT	63335	LSPERALU	63336	FLATTENING	63337
NPERAUA	6334U	AUPEREGUAT	63341	KPERNM	63342
EXPNAME	6335D	ID1ENPNT	633410	ID2ENPNT	63411
WCPGM	63412	INTER	63413	COEN	63414
RECQD	63415	ADSCN	63416	AESCN	63417
CDRCT	63420	DYDMP	63421	CHCOR	63422
PRLOG	63423	CELCOMPGM	63424	DATANALYZE	63425
INTERCUW	63426	ACQUI	63427	RDTRX	63430
CHPAR	63431	WFURO	63432	ROXXX	63433
PLANP	63434	TIMEP	63435	PLOTP	63436
ID1RADID	63440	ID2RADID	63441	AZIMADD	63442
ELEVADD	63443	DNPPADD	63444	RANGEADD	63445
INAZIMACC	63446	INLEVADD	63447	WFADD	63450
WILSTNACU	63451	SYSCOREG1	63452	SYSCOMRREG2	63453
SYSCOMREG3	63454	SYSCOREG4	63455	SYSCOMRREG5	63456
SYSCOMREG6	63457	INTEROKSW	63460	PREVIOUSTH	63461
BODYSIZE	63462	AZELBXSCAN	63500	AZMTHSCAN	63501
ELVINSCAN	63502	RADCBXSCAN	63503	RASCTNSCAN	63504
DECLINSCAN	63505	RDATERADN	63506	ROTATEABX	63507
RCLAYERCBX	63510	HOLDNHOLD	63511	AZIMUFFSET	63512
ELEVOFFSET	63513	RAOFFSET	63514	DECOFFSET	63515
CROSSOFFSET	63516	ALNGOFSFT	63517	TIMETOHLD	63520
PERIODLEV	63521	ARCOFFLEV	63522	PERIODAZIM	63523
ARCCFAZIM	63524	PERIODDEC	63525	ARC0FDEC	63526
PERIODRA	63527	ARCOFFRA	63530	RADECOTIME	63531
AZELUTIME	63532	RADIORA	63540	RADIODEC	63541
SYNCTIMING	63542	ID3RADIO	63776	IO4RADIO	63777
AZIMOUT	6400U	ID5RADIO	64776	IO5RADIO	64777
ELFVOUT	6500U	ID7RADIO	65776	IO7RADIO	65777
DPPOUT	6600U	ID9RADIO	66776	IO9RADIO	66777
RECAZIM	6700U	ID11RADIO	67776	ID12RADIO	67777
RECEIV	7000U	ID13RADIO	70775	ID14RADIO	70776
RANGEOUT	70777	MCPFILLER	71000	ID15RADIO	71776
ID16RADIC	71777	INTERALM	72000	ID17RADIO	72776
ID18RADID	72777	INTERLEV	73000	ID19RADIO	73776
ID22RADIC	73777	INTEROP	74000	ID21RADIO	74776
ID22RADID	74777	AZIMIN	75000	ID23RADIO	75776
ID24RADID	75777	ELEVIN	76000	ID25RADIO	76775
ID25SYSENT	76776	INTERRANGE	76777	ID1SYSENT	77576
ID27SYNAM	77577	SYSENSES	77600	ID1SYNSAM	77676
		SYSNAMES	77700		

END OF LISTING

CARDS		L1 TO TAPEL	TA STATEMENT	SPURT OUTPUT NO. 21C JCD+AAM*04/28/65	LCC	F JKB Y	NOTES
-	-	CCCC4 RECORDING	PROGRAM JDC+AAM*04/28/65	CCCC0000	CCCC72 CCC2		
-	-	CC005 TAPEN	MEANS C15	00001 27121	2711		
-	-	CC002 BC*	EQUALS 135	00002 61CCC	CCCC32		
-	-	CC003 TAPEEXTINT EQUALS 35		00003 CCC3	CCCC32		MAGNETIC TAPE OUTPUT BUFFER CO NTROL MAGNETIC TAPE EXTERNAL INTERRUPT
-	-	CCCC4 RECORDING	U-TAG RRCORC*RECINT FC 1*RECRD	00004 6C5CC	CCCC32		
-	-	CC005 RECINT	ENTRY JP FINAL*ANOT	00004 1C23C	6311C		INITIALIZATION OF RECORDING FCR INIT AND 1 FOR FINAL
-	-	CC007	ENT C*HYBRICLEVEL)*CPGS	00005 61CCC	CCCC16		
-	-	CC010	JP TELLNHEAD	00006 16C3C	CC521		SET FCR FULL RECORDING ASK HOW MUCH RECORDING
-	-	CC011	CL W (CMMSGREPLY)	00007 65C2C	3426		
-	-	CC012	RJP U (INTERCOM)	00010 CC476	CC515		
-	-	CC013	U-TAG DRMSG*DRANS	00010 CC510	11C1C		
-	-	CC014	ENT A*(DRMSGREPLY)	00011 11C1C	CC521		
-	-	CC015	STR A*U (RECRDSWITCH)	00012 15C1C	6315E		
-	-	CC016	SUB A*2*ZERO	00013 214CC	CCCC2		RECORDING STOPPED INDICATE NEW TEADING NEEDED
-	-	CC017	STR BC*CPL (MSGSWITCH)	00014 16C5C	CC463		
-	-	CC020	ENT BC*CPL (MSGSWITCH)*APCS	00015 11E50	33313		
-	-	CC021	STR BC*CPL (MSGSWITCH)	00016 16C5C	CC463		
-	-	CC022	JP L (RECINT)*APOS	00017 6C61C	CCCC1		
-	-	CC023	CL W (RELEASESW)	00020 16C3C	6315E		
-	-	CC024	CL U (MSGSWITCH)	00021 16C2C	63462		CLEAR CLT INTERLOCK INDICATOR ENABLE INTERLOCK PRINTING
-	-	CC025	CL U (INTERLOCKSW)	00022 16C2C	6346C		
-	-	CC026	CL W (SYSTEMSW)	00023 16C3C	63315		CLEAR CLT FINALIZATION INDICAT
-	-	CC027	CL W (SYSTEMINT)	00024 7C1CC	CCCC62		CR
-	-	CC030	RPT SCC*AOV	00025 16C3C	63212		CLEAR CLT REFILE
-	-	CC031	CL W (REFILE)	00026 16C3C	63212		CLEAR MAGNETIC TAPE OUTPUT BCW
-	-	CC032	CL W (BCW)	00027 16C3C	CC135		CLEAR MAGNETIC TAPE OUTPUT BCW
-	-	CC033	CL W (BUSYSTATUS)	00027 16C3C	CC473		SET STATUS TC INTERRUPT OCCURR
-	-	CC034	CL W (TAPENO)	00030 16C3C	CC452		
-	-	CC035	CL W (KEEPB3)	00031 16C3C	CC523		SET TAPE NUMBER TC C
-	-	CC036	EXIT JP TAPE3*AZERO	00032 61C1C	CCCC2		SET TO BEGINNING TC REFILE LATER ASK TITLE INFC FCR HEADI
-	-	CC037	RIL \$*TPCHN*ACTIVECUT	00037 6C4CC	CCCC5		NG BLOCK
-	-	CC040	JP STR BC*CPW (SYSTAD)	00033 6364C	CCCC32		WAIT FOR CHANNEL TO BE FREE
-	-	CC041	ENT A*LFCFTWRITE)	00034 00034	CCCC45		SET FINALIZATION INDICATOR
-	-	CC042	RSH A*3	00035 11C1C	CC53C		
-	-	CC043	CCU44 TAPEF2	00036 C2CCC	CCCC3		
-	-	CC044	PUT W (TEHJP3)*W (TAPEEXTINT)	00037 6C4CC	CCCC5		
-	-	CC045	EX-FCI TPCHN*W (EUFCN3)	00041 6CCC0	CCCC45		SET UP INTERRUPT ENTRANCE
-	-	CC046	JP RILJP \$	00042 14C3C	CC35		
-	-	CC047	CCU5C TEWJP3	00043 61CCC	CCCC44		
-	-	CC048	CCU51 TEWQT3	00044 60044	CCCC46		
-	-	CC049	PUT TECOUT3*L (TAPEEXTINT)	00046 1767C	CC453		
-	-	CC050	EX-FCI TPCHN*W (REN3)	00047 1CCCC	CCCC53		
-	-	CC051	JP \$	00050 14C1C	CCCC53		
-	-	CC052	CCU55 TEWOUT3	00051 1367C	CC45C		
-	-	CC053	STR TPCHN*W (NOTUSC)	00052 61CCC	CCCC52		
-	-	CC054		00053 1767C	CC453		

\*\*\*\*\* RECORDING \*\*\*\*\*  
 SPURT CLIPUT NO. 21C  
 JCD+AAM\*04/26/65

CARDS	L1 TO LABEL	TA STATEMENT	LCC	F JK8 Y	NOTES
*	CC056	JP L1RECINT)	0C054	6101C CCC2	
*	CC057 TAPE3	RIL W(TEWJP2)*W(TAPEEXTINT)	0C055	6101C CCCC	
*	CC060	PUT	0C056	1C03C CCC62	SET UP INTERRUPT ENTRANCE
*	CC061	EX-FCI TPCHN*W(ECFCN2)	0C057	1403C CCC35	
*	CC062	JR \$	0C060	1367C CC447	
*	CC063 TEWJP2	RILJR TEWT2	0C061	6101C CCC61	
*	CC064 TEWT2	STR TPCHN*W(NOTUSE)	0C062	6101C CCC63	
*	CC065	PUT TEWCUT2*LITAREEXTINT)	0C063	1767C CC453	
*	CC066	EX-FCI TPCHN*W(RENWD2)	0C064	1C03C CCC7C	
*	CC067	JR \$	0C065	1401D CCC35	
*	CC070 TEWT2	STR TPCHN*W(NOTUSE)	0C066	1367C CC451	
*	CC071	JR L1RECINT)	0C067	6101C CCC67	WAIT
*	CC072 RECCRRC	ENTRY	0C068	1767C CC452	
*	CC073	STR BC*CPM(RELEASESW)	0C069	6101C CCC62	SEARCH AND RECCRRC 1ST BLOCK
*	CC074 GORN	ENT A*U(LMSGSWITCH)*A&01	0C070	6101C CCC73	NEG SAYS RECCRRC BUSY IN SIM
*	CC075	JR ASKHEAD	0C071	6101C CCC73	* MCE
*	CC076	RJP U(PRLDG)	0C072	6101C CCC73	* WAS THERE AN INTERLOCK
*	CC077	7 INTERLOCKH	0C073	6101C CCC73	NC
*	CC100	2 -26C	0C074	6101C CCC73	NC
*	CC101	\$+3	0C075	6101C CCC73	NC
*	CC102	U(LMSGSWITCH)	0C076	6520C 63423	YES. PRINT INTERLOCK MESSAGE
*	CC103	CL PC*CPU(INTERLOCK\$W)			
*	CC104 ASKHGAD	ENT A*U(LMSGSWITCH)			
*	CC105	JR NCHEAD*AZERO	0C077	6101C CCC73	
*	CC106	RJP SETUPHEAD	0C078	6101C CCC73	
*	CC107	RJP HEAD	0C079	6101C CCC73	
*	CC110	EXIT	0C080	6101C CCC73	
*	CC111 NUHEAD	CL B3*	0C081	6101C CCC73	
*	CC112	STR B3*W(KEEPB3)	0C082	6101C CCC73	
*	CC113	ENT A*U(EXCESS)*AZERC	0C083	6101C CCC73	
*	CC114	RJP LOGNOWRITE	0C084	6101C CCC73	
*	CC115	CL W(THEREGS)	0C085	6101C CCC73	
*	CC116	ENT A*W(RUSYSTATUS)*AZERC	0C086	6101C CCC73	
*	CC117	JR ENDSCME	0C087	6101C CCC73	
*	CC120	STR BC*CPM(BUSYSTATUS)	0C088	6101C CCC73	
*	CC121	JP LIRECORD*TPCHN*ACTIVENUT	0C089	6101C CCC73	YES. SET STATUS TO NO INTERRU
*	CC122 ENLSOME	TERM TPCHN*OUTPUT	0C090	6101C CCC73	RT
*	CC123 LCCFI	ENT A*W(REFILE+B3)*ANCI	0C091	6101C CCC72	LEAVE IF CHANNEL BUSY
*	CC124	JP NCWRITE	0C092	6101C CCC72	
*	CC125	SILRJP WRITE	0C093	6101C CCC72	
*	CC126	JR NCWRITE	0C094	6101C CCC72	
*	CC127	STR B3*W(KEEPB3)	0C095	6101C CCC72	
*	CC130	RILJP L(RECCRRC)	0C096	6101C CCC72	
*	CC131	RETURN TC MAIN CCTRCL	0C097	6101C CCC72	

SPURT OUTPUT NO. 21C				RECORDING JDD+AAM*04728/65			
CARD	L1 ID LABEL	TA STATEMENT	LCC	F	JKB	Y	NOTES
*	CC131 NCWRITE	BSK B3*490 JP LCOPI CL W(RELEASESW)	0C131 0C132 00133	713CC 61CCC 16C30	CCC61 CC123 63156	NC RECRG CONTINUE SEARCH CF FILE MCP FREE TC RECYCLE IN SIM. MO	
*	CC132 RECINTRPT	EXIT ENTRY CL W(BUSYSTATUS)	0C134 00136 0C137	61C1C 16C30 65CCC	CCC72 CCC61 CC473	ALL BC=C SC NC RECRG WHEN INTERRUPT OCCURS SET TC INTERRUPT OCCURRED	CE
*	CC133	RJP SAVEREG ENT E3*W(KEEPB3) CL W(RECFILE+B3)	0C140 00141	1233C 16C33	CC523 63212		
*	CC134	STR TPCMN*WSTATUS) ENT A*(STATUS)	0C142 0C143	17670 11C2C	CC522 CC522	EXAMINE STATUS WORD CF BLOCK JUST RECRGED	
*	CC135	RSW A*110	0C144	02CCC	CCC13		
*	CC136	ENT B4*A	0C145	1247C	CCCCC		
*	CC137	ENT LISWTABLE+B4)	00146	65C14	CC531		
*	CC138	RJP B3*490 BSK CCNTINU JP CL W(RELEASESW)	0C147 0C150 0C151	713CC 61CCC 16C30	CCC61 CC153 63156	MCP FREE TC RECYCLE IN SIM. MO	OE
*	CC139	JP CCNE ENT A*(RECFILE+B3)*ANOT	0C152	61CCC	CC157		
*	CC140	JP CCNWRIT	00153	63212	CC153	CONTINUE FILE SEARCH	
*	CC141	RJP WRITE	00154	61CCC	CC147	BCW=C	
*	CC142	JP CCNWRIT	00155	65CCC	CC161	BCW AND C WRITE BLOCK	
*	CC143	JP PUTBACK	0C156	61CCC	CC147		
*	CC144	RJP L(RECINTRPT)	00157	65CCC	CC557		
*	CC145	ENT A*(RECFILE+B3)	00160	601C	CC135	EXIT	
*	CC146	JP CCNWRIT	00161	61CCC	CCCCC	CONTINUE FILE SEARCH	
*	CC147	CCNWRIT	0C162	11C23	63212	WRITE A BLOCK WITH EXT INT	
*	CC148	RJP PUTBACK	0C163	21013	63212	LWA	
*	CC149	RILJP L(RECINTRPT)	00164	217CC	CCCC3		
*	CC150	ENT A*(RECFILE+B3)	00165	61CCC	CC173	IS RECRG 3 CR MORE WORKS	
*	CC151	SUB A*3*ANEG	00166	16C6C	CC227	YES	
*	CC152	JP AMPLE	00167	1631C	CC227		
*	CC153	STR BC*CPUEXCESS)	00168	65CCC	CC23C	AC. PRINT REFILE RELATIVE LOC	
*	CC154	STR B3*LIECESS)	00169			CATION	
*	CC155	RJP LOGNOWRITE	00170			CLEAR OUT BUFFER CONTROL WORK	
*	CC156	CL W(RECFILE+B3)	CC171	16C33	63212		
*	CC157	ENT A*(RECFILE+B3)	0C172	61C1C	CC161		
*	CC158	ENT A*(RECFILE+B3)	00173	11013	63212	SET UP PARITY INDICATOR ADORES	S
*	CC159	ACC A*1	0C174	20CCC	CCCC1		
*	CC160	STR A*(PUTSEVN)	00175	15C1C	CC2C2		
*	CC161	STR A*(PUTONES)	00176	15C10	CC2C4		
*	CC162	ENT A*(INOPARITY)*AZERC	0C177	1143C	CC475	EXAMINE FAIRTY INDICATOR	
*	CC163	JP PUTSEVN	0C200	61CCC	CC2C2		
*	CC164	JP PUTONES	0C201	61CCC	CC2C4		
*	CC165	STR BC*CPW(0)	0C202	16C7C	CCCC		
*	CC166	JP RETNWR	0C203	61CCC	CC2C5		
*	CC167	CL W()	CC204	16C3C	CCCC	GCCC PARITY	
*	CC168	ENT A*(RECFILE+B3)	0C205	11C23	63212		
*	CC169	SUB A*(RECFILE+B3)	0C206	21013	63212		
*	CC170	ACC A*(THEREGS)	0C207	20C3C	CC445	TOTAL WORKS IN THIS FRAME	
*	CC171	CCW A*(LIMIT)*YMORE	CC210	1473C	CC444	HAVE WE EXCECC LIMIT FRAME	

SPURT CLIPUT NO. 21C  
JOO+AMM\*04/28/65

CAROS	L1 TO TAPEFL	TA STATEMENT	LCC	F JK8 Y	NOTES
		RECORDING			
CC211		JP CANTWRITE	CC211	61CCC CC223	YES
OC212		STR A*W(THEREGS)	CO212	15C30 CC445	NC, STORE NEW TOTAL
UC213	KWRITE	EX-FACT TPCNWN(FACTWRITE)	00213	1367C CC53C	
OC214		PUT W(SWHRJP)*W(TAPEEXTINT)	00214	1C30 CC474	SET UP INTERRUPT ENTRANCE
CC215		OUT TPCNWN(RECFILE+B3)	OC215	14C30 CCC35	
OC216		STR EC*CPW(RECFILE+B3)	00216	74673 63212	SET TC -C
CC217		STR B3*L(KEEPB3)	00220	16073 63212	
UC220		RPL Y+1*L(WRITE)	00221	36C1C CC522	
CC221		EXIT	00222	61C1C CC161	
OC222	CANTWRITE	STR B0*CPU(EXCESS)	00223	16C6C CC227	SET TC PRINT
OC223		STR B3*L(EXCESS)	00224	16310 CC227	STORE RELATIVE LOCATION IN REC
CC224		CL W(RECFILE+B3)	00225	16C33 63212	FILE CLEAR CUT BUFFER CONTROL WORD
CC225	EXCESS	EXIT	00226	61C1C CC161	
CC226		O C	00227	CCCCC CCCCC	U() IS -C IF LIMIT EXCEEDED. L
CC227	LCNCWRITE	ENTRY	00230	61CCC CCCCC	{) HAS REFILE SLCT
CC228					LCG WHEN TCC MUCH RECORDING RE
CC229		QUEST	00231	11CCC CCCCC	
CC230		A*	00232	126CC CCCCC	RELATIVE LOCATION IN REFILE
CC231		CL B6*	00233	1C1C CC227	
CC232		ENT C*(EXCESS)	00234	26CCC CCCCC	
CC233		ACD C*1	00235	55000 CCCCC	
CC234		LSH C*15D	00236	6C000 CCC03	
CC235	MVCOVER	LSH A*3	00237	77CCC CCCCC	
CC236		LSH AQ*3	00240	5CCCC CCC6C	
CC237		SEL SET*60	00241	71CCC CCC44	
CC240		B5K B6*4	00242	61CCC CC236	
CC241		JP MCVEOVER	00243	15C3C CC261	
CC242		STR A*W(BCWNO)	00244	65020 63422	PRINT ERRCR MESSAGE
CC243		RJP U(PRLOG)	00245	6CC1C CC252	
OC244		BC LOGLIMIT	00246	CCCC0 CCCCC	
UC245		1 C	00247	61CCC CC25C	
CC246		JP \$+1	00250	16C3C CC227	
OC247		CL W(EXCESS)	00251	61C1C CC23C	
CC250	LCGLIMIT	EXIT FC 7*1000 DEC WORD MAXIMUM REACHED AT 00252	00252	61242 42424	
CC251			00253	51111 21CC5	
CC252	BCNO	O ENTRY	00254	34242 711C5	
CC253	PARERRCR	PUT 1*W(INDPARITY)	00255	22C63 51622	PARTY CR MACHINE ERROR
CC254			00256	3222C 52712	
CC255		CL W(MSGSWITCH)	00260	5C63 1C5C5	
CC256		CL U(INTERLOCK)	00261	0CC00 CCCCC	
CC257		EXIT	00262	61CCC CCCCC	ENABLE INTERLOCK ROUTINE
OC260	NORMAL	ENTRY	00263	1CCCC CCCCC	
			00264	14C3C CC475	
			00265	16C30 CC463	
			00266	16C2C 6346C	
			00267	61C1C CC262	
			00270	61CCC CCCCC	NORMAL COMPLETION

SPURT OUTPUT NC. 21C  
 JCN+AMM+C472E/65

CARDS	L1 IC LABEL	IA STATEMENT	LCC	F JKH Y	ACTS
*	UC261	CL W(INDPARITY)	CC271	16C3C CC475	
*	UC262	CL W(MSGSWITCH)	CC272	16C3C CC463	HEADING RECCR IS WRITTEN
*	UC263	CL U(INTERLOCKSW)	CC273	16C2C 6346C	ENABLE INTERLOCK ROUTINE
*	UC264	EXIT	CC274	61C1C CC21C	
*	UC265 TL2	ENTRY	CC275	61CCC CCCCC	TAPE LIMIT REACHED
*	UC266	CL W(INDPARITY)	CC276	16C3C CC475	
*	UC267	STR PC+CPL(MSGSWITCH)	CC277	16C5C CC463	E.C.T. NEXT RECCR MUST BE HEADING
*	CC270	CL U(MSGSWITCH)	CC30C	16C2C CC463	SET INTERLOCK PRINT ENABLE
*	CC271	CL U(INTERLOCKSW)	CC301	16C2C 6346C	ENABLE INTERLOCK ROUTINE
*	CC272	ENT A•W(TAPENO)	CC3C2	11C3C CC452	
*	CC273	ACC A•1	CC3C3	2CCCC CCCCI	
*	CC274	STR A•W(TAPENO)	CC3C4	15C3C CC452	
*	CC275	ENT A•L(FCTWRITE)	CC3C5	11C1C CC53C	EXAMINE PRESENT UNIT NUMBER
*	CC276	RSP A•3	CC3C6	2CCCC CCCCI	
*	CC277	JP UNIT3*AZERO	CC307	64CCC CC331	
*	CC30C UNIT2	PUT 4•L(FCTWRITE)	CC310	1CCCC CCCI4	SET TC SERVC 2
*	CC3C1	PUT 5C562•L(UNITNO)	CC311	14C1C CC53C	
*	CC3C2	PUT W(REWINT3)•W(TAPEEXITINT)	CC312	1CCCC 5C562	SET TC PRINT 2 FOR UNIT NUMBER
*	CC3C3	EX-FCT TPCHN•W(REWNC3)	CC313	14C3C CC321	SET UP INTERRUPT ENTRANCE
*	CC3C4	RJP PUTBACK	CC315	14C3C CC335	
*	CC3C5	RILJP L(RECINIRPT)	CC316	1367C CC45C	
*	CC3C6 REWINI3	RJP REWCUT3	CC317	65CCC CC557	
*	CC3C7 REWCUT3	ENTRY	CC32U	6C11C CC135	
*	CC31C	CL W(RUSYSTATUS)	CC322	61CCC CCCCC	
*	CC311	RJP SAVEREG	CC323	16C3C CC473	
*	CC312	STR TPCHN•W(NOTUSE)	CC324	65CCC CC551	
*	CC313	RJP HEAD	CC325	1767C CC472	
*	CC314	RJP PUTBACK	CC326	65CCC CC426	
*	CC315 UNIT3	PUT L(REWOUT3)	CC327	65CCC CC557	
*	CC316 UNIT3	PUT 1C•L(FCTWRITE)	CC330	6C11C CC322	SET TC SERVC 3
*	CC317	PUT 50563•L(UNITNO)	CC331	1CCCC CCC1C	
*	CC32C	PUT W(REWINT2)•W(TAPEEXITINT)	CC332	14C1C CC53C	SET TC PRINT 3 FOR UNIT NUMBER
*	CC321	EX-FCT TPCHN•W(REWNC2)	CC334	14C1C CC472	
*	CC322	RJP PUTBACK	CC335	10C3C CC342	
*	CC324 REWINI2	RJP REWCUT2	CC336	14C3C CCC35	SET UP INTERRUPT ENTRANCE
*	CC325 REWCUT2	ENTRY	CC337	1367C CC451	
*	CC326	CL W(RUSYSTATUS)	CC340	65CCC CC557	
*	CC327	RJP SAVEREG	CC341	6C11C CC135	
*	CC33C	STR TPCHN•W(NOTUSE)	CC342	65CCC CC343	
*	CC331	RJP HEAD	CC343	61CCC CCCCC	
*	CC332	RJP PUTBACK	CC344	16C3C CC472	
*	CC333	RILJP L(REWOUT2)	CC345	65CCC CC551	
*	CC334 SETUPHEAD	ENTRY	CC346	1767C CC453	
*	CC335	PUT W(TAPENO)•W(FADBLOCK)	CC347	65CCC CC426	
*	CC354	14C3C CC377	CC350	65CCC CC557	

CARDS		L1 ID	LABEL	TA STATEMENT	LOC	F	JKB Y	ACTES
	CC336 AGAIN			MOVE 16D*EXPNAME*HEADBLOCK+1	0C325	1270C	CCC17	
	CC337 VERTT			PUT W(YEARMCNTH)*W(HEADBLOCK+1)	0C356	1CC37	6335C	
	CC34C			PUT W(DAY)*W(HEADBLOCK+1E0)	0C357	14C37	CC4CC	
	CC341			PUT W(SYSTAT2)*W(HEADBLOCK+190)	0C360	7270C	CC356	
	CC342			PUT W(CELLBOOY)*W(HEADBLOCK+200)	0C361	1CC3U	63147	WHICH CEL PCW.
	CC343			PUT W(CELLBOOY+1)*W(HEADBLOCK+210)	0C362	14C30	CC42C	
	CC344			PUT W(CELLBOOY+2)*W(HEADBLOCK+220)	0C363	1CC30	6315C	
	CC345			EXIT	0C364	14C3C	CC421	
	CC346 FORKEY			FC L*TITLE	0C365	1CC3U	63214	
	CC347 HEADBLOCK			RESERVE 23D	0C366	14C30	CC422	
	CC35C HEAD			ENTRY	0C367	1CC30	63113	
	CC351			TERM TPCHN*OUTPUT	0C371	1CC3C	63114	
	CC352			PUT W(SWHRJP)*W(TAPEEXTINT)	0C372	14C30	CC424	
	CC353			TPCHN*W(FCTWRITER)	0C373	1CC3C	63115	
	CC354			EX-FCT NC-OP	0C374	14C3C	CC425	
	CC355			CUT TPCHN*W(BCHHEAD)	0C375	61C1C	CC352	
	CC356			EXIT	0C376	31163	12112	
	CC357 HEADAGAIN			ENTRY	0C377	CCCC0	CCCC	
	CC360			ENT A*LX(SYSTAT1)*APCS	0C426	61CCC	CCCC	
	CC361			RJJP HEAD	0C427	6764C	CCCC	
	CC362			RJJP PUTBACK	0C430	1CC30	CC474	SET UP INTERRUPT ENTRANCE
	CC363 BCWHEAD			RJLJP LRECINTRPI	0C431	14C3C	CC35	
	CC364 BCWHEAD			U-TAG HEADBLOCK+22D*FCKEY	0C432	1367C	CC53C	
	CC365 LIMIT			CCCC023420	0C433	120CC	CCCC	
	CC366 THEREGS			CC35	0C434	7467C	CC443	
	CC367 EDFN3			0 00010	0C435	61C1C	CC426	
	UC37C EDFN2			12300 000C4	0C436	61CCC	CCCC	
	CC371 REWD3			12300 000C4	0C446	123CC	CCCC	
	CC372 REWD2			31100CCC10	0C447	123CC	CCCC	
	CC373 TAFNO			31100CCC04	0C450	311CC	CC1C	
	CC374 NOTUSE			0 C	0C451	311CC	CC1C	
	CC375 INTERLOCK			0 C	0C452	CCCC	CCCC	TAPE NUMBER
	CC376			ENTRY	0C453	CCCC	CCCC	
	CC377				0C454	61CCC	CCCC	SET UP FCR PRINTING INTERLOCK MESSAGE
	CC44C				0C445	CCCCC	CCCCC	
	CC44U			TERM TPCHN*OUTPUT	0C455	6764C	CCCCC	
	CC442			ENT A*U(INTERLOCK*)*AND	0C456	1152C	6346C	SKIP IF INTERLOCK ROUTINE DISABLED
	CC443			STP EC*CPW(MSGSWITCH)	0C457	16C7C	CC463	SET UP FCR TITLE AND FCR PRINT
	CC460			RJJP PUTBACK	0C460	65CCC	CC557	
	CC461			CL WRELEASESW)	0C461	16C3C	6315C	WCP FREE TC RECYCLE IN SIM. MODE
	CC462			RJLJP LRECINTRPI	0C462	6C11C	CC135	

SPURT CLIPUT NO. 21C  
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\*\*\*\*\* RECORDING \*\*\*\*\*

CARD	L1 TO TAPE	TA STATEMENT	LOC	F JKA Y	NOTES
:	CC404 M\$CSWITCH	0 C	00463	CCCCC CCCCC	
:	CC405 INTERLOCKM	FC C-CORRECT INTERLOCK ON TAPE UNIT	00464	1C242 72712	
:			00465	1C31C 51623	
:			00466	31122 72124	
:			00467	1C2CC 52423	
:			00470	0531C 62512	
:			00471	05322 31631	
:			00472	0505C 5C562	SET TO 0 BY INTERRUPT, -0 BY W
:			00473	CCCCC CCCCC	
:					CRKER
:					FCR EXIT INT
:	CC410 SWFRJP	RJP RECINTRPT	00474	65000 CC135	
:	CC411 INTPARITY	0 C	00475	CCCCC CCCCC	
:	CC412 OHMSG	FC 1*A	00476	0605C 5C5C5	
:	CC413	-C \$+1	00477	77777 CC5CC	
:	CC414	FC C-SYSTEM DATA RECORDING...COMPLETE TO 0500	00478	30363 C3112	
:		O) PARTIAL(1) NONE(2) 0			
:			00501	22051 1C631	
:			00502	06052 7121C	
:			00503	24271 11623	
:			00504	14757 5751C	
:			00505	24222 52112	
:			00506	31125 1244C	
:			00507	0525C 62731	
:			00510	16062 15161	
:			00511	40052 32423	
:			00512	12516 24CC5	
:			00513	2405C 5C5C5	
:			00514	77777 77777	
:			00515	1105C 5C505	
:			00516	00011 CC521	
:			00517	CCCCC CCCCC	
:	CC415 DRANS	-C 1*0	00518	CCCCC CCCCC	
:	CC417	FC DRMSGREPLY	00519	CCCCC CCCCC	
:	CC420	0 11	00520	CCCCC CCCCC	
:	CC421	2	00521	CCCCC CCCCC	
:	CC422 DRMSGREPLY	0	00522	CCCCC CCCCC	
:	CC423 STATUS	0 C	00523	CCCCC CCCCC	
:	CC424 KEPB3	0 C	00524	CCCCC CCCCC	
:	CC425 MPA	C C	00525	CCCCC CCCCC	
:	CC426 MPC	0 C	00526	CCCCC CCCCC	
:	CC427 MPB4	0 C	00527	CCCCC CCCCC	
:	CC430 MPB3	C C	00528	CCCCC CCCCC	
:	CC431 FC1BRITE	12000 00004	00529	12000 CCCCC4	HIGH DENSITY BINARY(UNIT 2)
:	CC432 SWABLE	0 PARERROR	00530	00000 CCCCC4	
:	CC433	0 PARERROR	00531	00000 CCCCC4	
:	CC434	0 PARERROR	00532	00000 CCCCC4	
:	CC435	0 PARERROR	00533	00000 CCCCC4	
:	CC436	0 PARERROR	00534	00000 CCCCC4	
:	CC437	0 HEADGAIN	00535	00000 CCCCC4	
:	CC440	0 PARERROR	00536	00000 CCCCC4	
:	CC441	0 PARERROR	00537	00000 CCCCC4	
:	CC442	0 NORMAL	00540	00000 CCCCC4	
:	CC443	0 PARERROR	00541	00000 CCCCC4	
:	CC444	0 PARERROR	00542	00000 CCCCC4	
:	CC445	0 TLR.	00543	00000 CCCCC4	
:	CC446	0	00544	00000 CCCCC4	
:			00545	00000 CCCCC4	

SPURT CLIPUT NO. 21C  
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CARDS	L1 IC	L2 FFL	TAB STATEMENT	L1C	F	JKB	Y	NOTES
CC447	*		C PARERR09	CC546	CCCCC	CC262		S#=13
CC450	*		U PARERROR	00547	CCCC	CC262		S#=14
CC451	*		G INTERLOCK	00550	CCCC	CC454		(7C) AFC
CC452	*	SAVEREG	ENTRY	00551	1CCCC	LCCCC		S# 15 (74) ILF
CC453	*		STR A#H(MPA)	00552	15C30	CC524		
CC454	*		STR C#W(MPQ)	00553	14C30	CC525		
CC455	*		STR E2*L(MPB3)	00554	1631C	CC527		
CC456	*		STR F4*L(MPB4)	00555	1641C	CC526		
CC457	*		EXIT	00556	61C1C	CC551		
CC460	*	PUTPACK	ENTRY	00557	61C0C	CCCCC		
CC461	*		ENT A#H(MPA)	00560	11C30	CC524		
CC462	*		ENT C#W(MPQ)	00561	10C3C	CC525		
CC463	*		ENT E2*L(MPB3)	00562	1231C	CC527		
CC464	*		ENT F4*L(MPB4)	00563	1241C	CC526		
CC465	*		EXIT	00564	61C1C	CC557		
CC466	*		RESERVE 1	00565	CCCCC	CCCCC		
END OF LISTING								

LABEL	LCC	LABEL	LCC	LABEL	LCC
A\$####1111	CC356	ACQAZIM	63071	ACCELEV	63C75
ACQUI	63427	ACTUALTIME	63142	AESCN	63416
AESCN	63417	AGAIN	CC355	ALNCCFFST	63517
AMRLE	CC173	ARCOFALIM	63524	ARCFDEC	63526
ARCCFELEV	63522	ARCOFRRA	63530	ASKHEAC	CC104
ASTRDEC	63106	ASTRORA	63105	ALPEREQUAT	63341
AZELCTIME	63532	AZELXSCAN	63500	AZIM	63C53
AZIMCFFSET	63512	AZIMOUT	64000	AZIMCYER	63325
AZIMADD	63442	AZIMIN	75000	AZIMHSCAN	63501
BODYSIZE	63462	BGW	00135	BCAIEAC	CC442
BCWNC	CC261	BLASTOFF	63146	BUSYSTATS	CC473
COCON	63414	CCONTINU	00153	CCONVERTIME	63135
CORCT	63420	COSORIENT	63065	CCSAEEL	63C7C
CANTHRITE	CC223	CAZIM	63066	CELCRCY	63113
CELCCMPGM	63424	CELEV	63061	CELTIME	63132
CHCCR	63422	CHPAR	63431	CRANGE	63C57
CRSSCFSET	63516	DONE	00157	DCMARI	00147
DDPPCUT	66000	CDPPADDO	63444	DATANLYZE	63425
DAY	63150	CEC	63003	DECFFSET	63515
DECDCCT	63010	DECLINSCAN	63505	DELDATE	63316
DTRANS	CC515	CRMSG	00476	DRMGRPLY	CC521
DSECCNDS	63141	CUMSECTIG	63154	DYCP	63421
E0FCN2	CC447	E0FCN3	00446	ELEV	63C54
ELEVCFSET	63513	ELEVOUT	65000	ELEVADC	63443
ELEVIN	76000	ELVNTSCAN	63502	ENCLIME	00122
EQUATOR	63323	ESTSHFTED	63143	EXCESS	CC227
EXPNAME	63350	FORKEY	00376	FCIRITE	0C53C
FINAL	CC033	FIRSTTELEV	63104	FIRSTTHRU	63153
FLATTENING	63337	FRAMESIZE	63101	FREQUENCY	63217
GCCN	CC074	GEOCENTRAI	63322	GECETLAT	63321
GM#CDU24	63145	GTMSTHFTED	63144	HCLNCFLCL	63511
OURMINUTE	63137	HURREG	63151	HEAD	CC426
HEADAGAIN	CC436	HEADBLOCK	00377	HEIGHT	63226
ID1RADIC	66777	ID11RAD10	67776	IC12RADIC	67777
ID13RADIC	70775	ID14RAD10	70776	IC15RADIC	71776
ID16RADIC	71777	ID17RAD10	72776	ID18RADIC	72777
ID19RADIC	73776	ID18ELCKER	63000	IC17RNTP	6341C
ID1RADCOR	63050	ID1RADIC	63440	ID1RECRC	6321C
IDISYSSENT	77576	ID1SYSNAM	77676	IC1SYSPAR	6331C
IDITIME	63130	ID20RAD10	73777	ID21RADIC	74776
ID22RADIC	74777	ID23RAD10	75776	IC22RADIC	75777
ID25RADIC	76776	ID26RAD10	76776	ID26ELCR	63C01
ID2ENTPNT	63411	ID2RADCCR	63051	IC2RADIC	63441
ID2RECORD	63211	ID2SYSEN	77577	IC2SYSNAW	77677
ID2SYSPAR	63311	ID2TIME	63131	IC3RADIC	63776
ID4RADIC	63777	ID5RAD10	64776	IC6RADIC	64777
IDTRADIO	65776	ID8RADIC	65777	ID9RADIC	66776
INAZIMADD	63446	INDPARITY	00475	INLEVACC	63447
INTER	63413	INTERAZIM	72000	INTERCOM	63426
INTERDOPR	74000	INTERLEV	73000	INTERLOCK	CC454
INTERLOCK#	CC464	INTERLOCKS	63460	INTERRANCE	76777

RECORDING	LCC	LABEL	LCC	LABEL	LCC
KEEPB3	CC523	KPERNM	63342	KWRITE	CC213
KYERCLEVEL	63110	LOOP1	0C123	LCGLIMIT	CC252
LOGNCWRITE	CC230	LONGTOE	63320	LIMIT	CC444
LSPERAU	63336	MOVEOVER	0C236	MAINSWITCH	633234
MCPFILLER	71000	MPGM	63412	MILLSTNACC	63451
MINREG	63152	MPA	0C524	MPB3	CC527
MPH4	CC526	PQ	0C525	PRECINT	CCC02
MSFREQ	63332	MSGSWITCH	0C463	NHEAC	CC111
NCRML	CC270	NOTUSE	00453	NCWRITE	CC131
NMPERAU	63340	POLE	63324	PARERRCR	CC262
PERICDAZIM	63523	PERIODEC	63525	PERIDEVY	63521
PERICDRA	63527	PLOTP	63436	PLANP	63434
PREVIOUSIM	63461	PROLOG	63423	PUTNES	CC204
PUTBACK	CC557	PUTSEVN	0C202	RCTATEAEBX	63507
RCRATERACN	63506	ROTATERCBX	63510	RA	63C02
RACFFSET	63514	RADEOT	63C07	RACARMCE	63312
RACCBXSCAN	63503	RADECOTIME	63531	RACICCE	63541
RACIMETER	63102	RADIORA	63540	RADIUS	63C06
RADIUSDOT	63011	RANGE	63052	RANGEOUT	7C777
RANGEAD0	63445	RANGEDOT	63062	RASCTNSCAN	63504
ROMTR	63430	ROXXX	63433	RECCRD	CC72
RECORDING	CCOCO	RECORDSIZE	63112	RECAZIN	67CCC
RECELEV	7C000	REFILE	63212	RECINTRPT	CC135
RECRC	63415	RECDTSCH	63155	RELEASES	63156
RETNR	CC2C5	REWOUT2	00343	REWUT3	CC322
REWINT2	CC342	REWINT3	0C321	REWC2	CC451
REWN3	CC450	SAVEREG	0C551	SAZIN	63C55
SCETIME	62134	SECFC	63005	SECCNDNS	6314C
SELEV	63C56	SETUPHEAD	00352	SICERTIME	63C12
SINCRIENT	63064	SINAZEL	63066	SKIF	63231
SRA	63004	SRADTIME	63136	STATUS	CC522
SWHRJP	CC474	SWTIME	0C531	SYNCTIMING	63542
SYSCCMREGI	63452	SYSCMRG2	63453	SYSCMRG3	63454
SYSCCMREG4	63455	SYSCMRG5	63456	SYSCMRG6	63457
SYSENTRIES	77600	SYNAME\$	77700	SYSTAT1	63313
SYSTAT2	63314	SYSTAT0	63312	TAPE2	CCC4C
TAPF3	CC055	TAPEEXTINT	00035	TAPENC	CC452
TELLNHEAD	CC016	TEWOUT2	00070	TEWCUT3	CCC52
TEWJP2	CC062	TEWP3	0C045	TEWR2	CC63
TEWRT3	CCC46	THEREGS	0C445	TIMECCR	63107
TIMEODE	63103	TIMEP	63435	TIMECHCLC	6352C
TLH	CC0275	TRUE RANGE	63063	TRUE TIME	63132
TTYSTATUS	63111	TWOSECDP	63017	UNIT2	CC31C
UNIT3	CC331	UNITNO	0C472	VELOCIGFT	63335
VERIT	CC361	V1ZDEC1	63014	V1ZCEC2	63C16
VIZZAL	63C13	VIZRA2	63015	WFRC	63432
WFACC	63450	WFREQ	63333	WRITE	CC161
YEARUNTH	63147	YTRAN	63327	ZTRAN	6333C

END OF LISTING

SPURT OUTPUT NO. 212

JCO+AAM\*04/28/65

RECORDING

LABEL	LCC	LABEL	LCC	LABEL	LCC
RECORDING	CCCC0	PRECINT	0CC002	TELLNWHHEAD	CCC16
FINAL	CC033	TAPEEXT INT	0CC035	TARE2	CCC4C
TEWJP3	CC045	TEWR3	0CC046	TEWCUT3	CCC52
TAPE3	CC055	TEWP2	0CC062	TEWT2	CCC63
TEWCUT2	CC070	RECORD	0CC072	GCCN	CCC74
ASKHEAD0	CC104	NCHEAD	0CC111	ENCSME	CC122
LCCPI	CC123	NCWRITE	0CC131	RECINTRPT	CC135
BCW	CC135	CONWRIT	0CC147	CCONTINU	CC152
OCNE	CC157	WRITE	0CC161	AMPLR	CC173
RUTSEVN	CC202	PUTONES	0CC204	RETMR	CC205
KWRITE	CC213	CANTWRIT	0CC223	EXCESS	CC227
LUONCHWRITE	CC230	MOVEOVER	0CC236	LCGLIMIT	CC252
BCWN	CC261	PARENOR	0CC262	NCRML	CC270
TLR	CC275	UNIT2	0CC310	REWINT3	CC321
REWCUT3	CC322	UNIT3	0CC331	REWINT2	CC342
REWCUT2	CC343	SETUPHEAO	0CC352	AGAIN	CC355
ASSSS111	CC356	VERIT	0CC361	FCRKEY	CC376
HEACBLOCK	CC377	HEAD	0CC426	HEAGAGAIN	CC436
BCWHEAD	CC443	LIMIT	0CC444	THEREGS	00445
EOFON3	CC446	EOFON2	0CC447	REWD3	CC45C
REWND2	CC451	TAPENO	0CC452	NCUTS	CC453
INTERLOCK	CC454	MSGSWTCH	0CC463	INTERLCLKN	CC464
UNITNO	CC472	BUSYSTATUS	0CC473	SWRJR	CC474
INCParITY	CC475	CRMSG	0CC476	TRANS	CC515
ORMSCREPLY	CC521	STATUS	0CC522	KEEPB3	CC45C
MPA	CC524	MPQ	0CC525	MRB4	CC526
MPB3	CC527	FCTWRIT	0CC530	SWTABLE	CC531
SAVEREG	CC551	RUTBACK	0CC557	IC1CELCLR	63CCC
TO2CELCOR	63001	RA	63002	CEC	63CC03
SRA	63004	SCEC	63005	RADIUS	63CC06
RACOT	63007	DEC00T	63010	RADIUSC1	63C11
SICERTIME	63012	VIZRAL	63013	VIZCEC1	63C14
VIZRA2	63015	VIZD0E2	63016	TWSOECFP	63C17
101RADCOR	63050	102RA00CR	63051	RANGE	63C52
AZIM	63053	ELEV	63054	SAZIM	63C55
SELEV	63056	CRANGE	63057	CAZIM	63C6C
CELEV	63061	RANGE0T	63062	TRUEANGE	63C63
SINCRIENT	63064	COSORIENT	63065	SINAZEL	63C66
COSAZEL	63070	ACQAZIM	63071	ACQUELEV	63C75
FRAMESIZE	63101	RADIOMETER	631C2	TIMECCE	63103
FIRSTELEV	631C4	ASTRORA	63105	ASTRDEC	63106
TIMECORR	631C7	KYBROVEL	6311C	TYSTATUS	63111
RECCRSIZE	63112	CELBODY	63113	ICITIME	6313C
102TIME	63131	TRUETIME	63132	CELTIME	63133
SCETIME	63134	CONVERTIME	63135	SRACTIME	63136
HOURMINUTE	63137	SECONDS	6314C	CSECCNC	6314I
ACTUALTIME	63142	ESTSHFTED	63143	GMTSHIFTC	63144
GMTCCU24	63145	PLASTOFF	63146	YEARMCNT	63147
DAY	63150	FOURREG	63151	MINREG	63152
FIRSTHUR	63153	CUMSECTG	63154	RECDSTCH	63155
RELEASESH	63156	ICIRECD	6321C	IC2RECR	63211

RECORDING	LCC	LABEL	LCC	LABEL	LCC
RECFILE	63212	ID1SYSPAR	63310	IC2SYSPAR	63311
RACARMDE	63312	SYSTATI	63313	SYSTAT2	63314
SYSTATO	63315	CELTATE	63316	FREQUENCY	63317
LONGITUDE	63320	GEOEQLAT	63321	GECCNLT	63322
EQUATOR	63323	POLE	63324	AZIMOVER	63325
HEIGHT	63326	YRTRAN	63327	ZTRAN	63330
SKIP	63331	PSFREQ	63332	WFREQ	63333
MAINSWITCH	63334	VELOFLIGHT	63335	LSPEREAU	63336
FLATTENING	63337	NMPERAU	63340	AUPERECAUT	63341
KMPERM	63342	EXPNAME	63350	ICLIENTPAI	6341C
TOCENTPNT	63411	PCPGM	63412	INTER	63413
COCON	63414	RECRD	63415	ACSCN	63416
AESCN	63417	CORCT	63420	CYCMP	63421
CHCCR	63422	PRLOG	63423	CELCOMP	63424
DATANALYT	63425	INTERCOM	63426	ACQUI	63427
RCMTR	63430	CHPAR	63431	WFCD	63432
RDXXX	63433	PLANP	63434	TIMEP	63435
PLCIP	63436	ICIRADIO	63440	IC2RADIC	63441
AZIMADU	63442	ELEVACO	63443	OCPACK	63444
RANGEADU	63445	INAZIMADU	63446	INELEVACU	63447
WFACC	63450	MILLSTYADD	63451	SYSCCMREG1	63452
SYSCCMREG2	63453	SYSCMREG3	63454	SYSCMREG4	63455
SYSCCMREG5	63456	SYSCMREG6	63457	INTERCLKSW	6346C
PREVIOUSSW	63461	POOSIZE	63462	AZLWXSCAN	63500
AZMTHSCAN	63501	ELVYNSCAN	63502	RACCBXSCAN	63503
RASCINSCAN	63504	CECLINSCAN	63505	RCTATERAKN	63506
ROTATEAEBX	635C7	RCTATERQBX	63510	HLCNCCHCLC	63511
AZIMOFFSET	63512	ELEVOFFSET	63513	RACFFSET	63514
DECFFSET	63515	DRCSOFFSET	63516	ALNGFFSET	63517
TIMEHOLD	63520	PERIODLEV	63521	ARCCFELEY	63522
PERICOAZIM	63523	ARCOFAZIM	63524	PERICODEC	63525
ARCCFDEC	63526	PERIOPRA	63527	ARCFCDEC	63526
RACECOTYPE	63531	AZELOTIME	63532	RACICRA	6354C
RACIDEC	63541	SYNCTIMING	63542	IC3RADIC	63776
IUGRADIO	63777	AZIMOUT	64000	IC5RADIC	64776
106RADIO	64777	ELEVOUT	65000	IC7RADIC	65776
108RADIO	65777	CCPOUT	66000	IC9RADIC	66776
101RADIC	66777	RECAZIM	67000	IC11RADIC	67776
IC12RADIC	67777	RECELEV	70000	IC13RADIC	7C775
1014RADIC	70776	RANGEDOUT	70777	WCPFILER	7ICOC
1015RADIC	71776	IC1GRAD10	71777	INTERAZIP	72CCC
1017RADIC	72776	IC18RAD10	72777	INTERELEV	73CCC
IC19RADIC	73776	IC20RAD10	73777	INTERCCPF	74CCD
1021RADIC	74776	IC22RAD10	74777	AZIMIN	75CCD
1023RADIC	75776	IC24RAD10	75777	ELEVIN	76CCD
1025RADIC	76775	IC26RAD10	76776	INTERRANCE	76777
101SYSENT	77576	IC2SYSEN	77577	SYSENTRIES	776CC
101SYNSAM	77675	IC2SYSNA	77677	SYSNAMES	777CC

\*\*\*\*\* WESTFORD \*\*\*\*\* SPURT OUTPUT NO. 210  
J00•2/1/65

CARDS	LL IO LABEL	IA STATEMENT	LOC	F JKB Y	NOTES
	COC00	WESTFORD	PROGRAM J00•2/1/65	00000	000027 OCOC2
	COC01	WESTFORD	COMMENT COUPLE	00001	34132 42711
	COC02	WESTFORD	U-TAG WFRN•WFINIT	00000	000000 OCOC0
	COC03	WFINIT	FO 1•WFURD	00002	610000 00000
	COC04	WFINIT	ENTRY A•W(WFFREQ)	00003	63333 7750 B14
	COC05		ENT A•1	00004	02000 OCOC1
	COC06		RSH C•1	00005	10000 OCOC0
	COC07		CL C•	00006	23030 63317 Q00T B29 IN Q
	COC10		CIV W(FREQUENCY)	00007	1100C OCOC0
	COC11		CL A*	00010	230000 01750 BO TO KCS
	COC12		CIV 10000	00011	1403C 0315 B29
	COC13		STR Q•W(FRATIO)	00012	11030 63332 MCS B14 = B44 AC
	COC14		ENT A•W(IMSFRQ)	00013	1000C OCOC0
	COC15		CL Q	00014	03000 OCOC1 B43
	COC16		RSH AQ•1	00015	23030 63317 B14
	COC17		CIV W(FREQUENCY)	00016	14030 003C4 B29
	COC20		STR Q•W(MRATIO)	00017	1003C 0316
	COC21		PUT W(ANSNSINT)•W(54)	00020	14030 OC054
	COC22		IN C14•W(MSINBCW)•MONITOR	00021	7563C OC317
	COC23		EXIT	00022	61010 OCOC2
	COC24		ENTRY	00023	6100C OCOC0
	COC25		STR C14•W(STATUS)	00024	17630 OC326
	COC26		IN C14•W(MSINBCW)•MONITOR	00025	75630 OC317
	COC27		RTLJP L(MSININT)	00026	60110 00023
	COC30		COOC WFRUN	00027	61000 OCOC0
	COC31		ENTRY A•L(WFAC0)	00030	11010 63450
	COC32		STR A•L(STRAE1)	00031	15010 OC070
	COC33		STR A•L(STRAE2)	00032	15010 OC074
	COC34		STR A•L(STRAE3)	00033	1501C OC075
	COC35		STR A•L(STRAE4)	00034	1501C OC076
	COC36		STR A•L(STRAEXTRA)	00035	15010 OC1C3
	COC37		STR A•L(PWFAE)	00036	15010 OC2C2
	COC41		SUB A•2	00037	21000 OC0C2
	COC42		STR A•L(STRDOP)	00040	1501C 00141
	COC43		A•1	00041	20000 OCOC1
	COC44		STR A•L(STRRNG)	00042	15010 00164
	COC45		ENT A•L(AZIMA00)	00043	11010 63442 PICK UP RIGHT AZ
	COC46		SUB A•1	00044	2100C OCOC1
	COC47		STR A•L(PUPAZ1)	00045	15010 OC65
	COC50		ENT A•L(ELEV00)	00046	11010 63443 PICK UP RIGHT EL
	COC51		A•1	00047	2100C OCOC1
	COC52		STR A•L(PUPELL1)	00050	1501C OC071
	COC53		ENT A•L(GUPPA00)	00051	11010 63444 FWA OF NEW UOPPLER
	COC54		A•2500	00052	20000 OC372
	COC55		STR A•L(PUDOPP)	00053	1501C OC110
	COC56		ENT A•L(RANGEAOC)	00054	11010 63445
	COC57		STR A•L(ORANGE)	00055	1501C CC152
	COC60		CL B5•	00056	12500 00000 PICK UP 40 AZ + ELS
	COC61		CL B6•	00057	12600 OCOC0 INDEX STORES BY 3
	COC62		ENT A•40000	00060	11000 4CC00
	COC63		STR A•W(INDXAZEL)	00061	15030 00314
			ENT A•1440000	00062	1103C 00330

CARDS	T1 TO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	COC64	RPL A*Y*W(INOXAZEL)	00063	2403D	0C314		
	COC65	ENT B4*W(INOXAZEL)	00064	1242D	0D314		
	COC66	PLPAZ1	00065	11034	0CCC0		
	COC67	ENT A*W(O-B4)	00066	0320D	000C4		
	COC68	RSH AQ*4*QPOS	00067	20000	0COC1		
	COC69	ADD A*1	00070	15016	0COC0		
	COC70	STR A*LI(O+B6)	00071	11034	0COC0		
	COC71	SIRAE1	00072	03200	0COC4		
	COC72	PLPEL1	00073	20000	0COC1		
	COC73	ENT A*W(O-B4)	00074	15026	0CCC0		
	COC74	RSH AQ*4*QPOS	00075	10236	0COC0		
	COC75	ADD A*1	00076	16026	0CCC0		
	COC76	SIRAE2	00077	12606	0COC3		
	COC77	SIRAE3	00100	71500	0C047		
	COC78	ENT A*U(O+B6)*QPOS	00101	61000	0C062		
	COC79	CL U(O+B6)	00102	1250C	0DCOC0		
	COC80	ENT B5*B6+3	00103	14036	0COC0		
	COC81	BSK B5*390	00104	12606	0COC3		
	COC82	JP LOOPRTRN	00105	71500	0C011		
	COC83	CL BS	00106	61000	0C1C3		
	COC84	SIRAE EXTRA	00107	16030	00313	DOPPLER	BO IN CPS
	COC85	STR Q*W(O-B6)	00110	10030	0COC0	HOLD FOR H.S.	USE
	COC86	ENT B6*B6+3	00111	14030	003C5		
	COC87	BSK B5*90	00112	27630	00331		
	COC88	JP STRAEXTRA	00113	65000	0C143		
	COC89	CL W(DOPSIGN)	00114	22030	0C315	FW/FHS X 1000 B29	
	COC90	ENT Q*W(O)	00115	07000	0CCC1	KCS BD IN A	
	COC91	PLPDCPP	00116	15000	0COC0		
	COC92	STR Q*W(SAVEDDOP)	00117	11000	0COC0		
	COC93	SUB Q*750000D*QPOS	00120	23000	0U012	EXTRACT UNITS	DIGIT
	COC94	RJP COPNEC	00121	15030	00312		
	COC95	MUL W(FRATIO)	00122	11000	0DCOC0		
	COC96	LSH AQ*1	00123	23000	0C012	TENS IN A	100S IN Q
	COC97	STR A*C	00124	06000	0DCOC4		
	COC98	CL A*	00125	20030	00312		
	COC99	DIV IDC	00126	05000	00010		
	COC100	STR A*W(WFDOPPLER)	00127	26070	0COC0		
	COC101	CL A*	00130	1403C	0C312		
	COC102	CIV 100	00131	05000	0C015		
	COC103	LSH A*4	00132	26030	0D312		
	COC104	ACD A*W(WFDOPPLER)	00133	00133	14040	000C0	
	COC105	LSH Q*8D	00134	5003U	0C332		
	COC106	ADD Q*A	00135	1023C	0C313		
	COC107	STR G*W(WFDOPPLER)	00136	61000	0C147		
	COC108	LSH Q*130	00137	1230C	0C0C3		
	COC109	ADD C*W(WFDOPPLER)	00140	7030U	0CU62		
	COC110	STR Q*A	00141	15013	0COC0		
	COC111	SFT*4000000000	00142	61000	0C151		
	COC112	ENT B3*3	00143	61000	0COC0		
	COC113	RPT SOD*ADDR	00144	1607C	0C313		
	COC114	STR A*W(O-B3)	00145	1400C	0COC0		
	COC115	JP CORANGEX	00146	61010	0C143		
	COC116	ENTRY	00147	5003U	0C333		
	COC117	SETB3	00148	1230C	0C0C3		
	COC118	DPNEC	00149	1607C	0C313		
	COC119	STR BC*CP*(COPSIGN)	00150	1400C	0COC0		
	COC120	CP C*	00151	61010	0C143		
	COC121	EXIT	00152	5003U	0C333		
	COC122	SEL SET*02000100U	00153	1230C	0C0C3		

SPURT OUTPUT NO. 210  
J00\*2/17/65

CARDS	L1	I0	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
*	C0151			JP SETB3	00150	61000	0C137		
*	C0152		UCRANGE X	CL A*	00151	11000	0C000		
*	C0153		DCRANGE	ENT Q*W(0)	00152	10030	0C000	RANGE IN N.M.	
*	C0154			STR Q*W(SAVEFORNG)	00153	14030	0C3C6		
*	C0155			DIV 2500000	00154	23030	00334		
*	C0156			STR A*Q	00155	15000	0C000		
*	C0157			MUL W(RFACTUR)*AZERO	00156	22430	0C310		
*	C0160			SUB A*240	00157	21000	0C030		
*	C0161			SEL SET*6000700000	00160	50030	0C335		
*	C0162			SEL CL*1770000000	00161	52030	0C336		
*	C0163			ENT B3*3	00162	12300	0C003		
*	C0164			RPT 500*A00B	00163	70300	0C062		
*	C0165		STRRNG	STR A*W(0+B3)	00164	15033	00000		
*	C0166			PUT L(MILLSTNAOO)*L(STRMSAZ)	00165	10010	63451		
*	C0167			STR Q*L(STR3M0AZ)	00166	14010	0C2C3		
*	C0170			ADD C*1	00167	14010	0C216		
*	C0171			STR Q*L(STRMSEL)	00170	26000	0C001		
*	C0172			STR Q*L(STR3M0EL)	00171	14010	0C207		
*	C0173			SUB Q*3	00172	14010	00217		
*	C0174			SEL Q*3	00173	27000	00003		
*	C0175			STR C*L(STRMSRNG)	00174	14010	00234		
*	C0176			ADD Q*1	00175	26000	00001		
*	C0177			STR Q*L(STRMSOOP)	00176	14010	00252		
*	C0200			CL B4*	00177	12400	0C000		
*	C0201			CL B5*	00200	12500	0C000		
*	C0202			CL B6*	00201	12600	0C000	STORE WF E + A	EVERY 3RD
*	C0203		PUMFAE	ENT A*W(0+B5)	00202	11035	0C000	STORE	EVERY 4TH AZIMUTH
*	C0204		STRMSAZ	STR A*L(0+B6)	00203	15016	0C000		
*	C0205			CL C*	00204	100000	0C000		
*	C0206		AQ*150	RSH SET*2000000000	00205	0C000	0C017	ELEVATION COOE	
*	C0207			SEL STR A*W(0+B6)	00206	50030	0C337	ELEVATION	
*	C0210			ENT B5*B5+3	00207	15036	0C000		
*	C0211			ENT B6*B6+4	00210	12505	00003		
*	C0212			BSK B4*390	00211	12606	00004		
*	C0213			JP PUMFAE	00212	71400	0C047		
*	C0214			CL B5*	00213	61000	0C2C2		
*	C0215			LSH Q*150	00214	12500	0C000		
*	C0216		STR3M0AZ	STR Q*W(0+B6)	00215	05000	00017	LAST AZIMUTH	
*	C0217		STR3M0EL	STR A*W(0+B6)	00216	14036	0C000	3 ADDITIONAL AZIMUTHS	
*	C0220			ENT B6*B6+4	00217	15036	00000	3 ADDITIONAL ELEVATIONS	
*	C0221			BSK B5*90	00220	12606	0C004		
*	C0222			JP STR3M0AZ	00221	71500	0C011		
*	C0223		OCMSRNGE	ENT Q*W(SAVEFORNG)	00222	61000	00216	TWO WAY UNITS	* 2 MICROSECONDO
*	C0224			CL A*	00223	10030	003C6		
*	C0225			CL S*	00224	11000	0C000		
*	C0226			SUB A*3*ANEG	00225	23000	0C0C5	TO UNITS OF 1	MICROSECOND
*	C0227			ACO C*1	00226	21700	0CCC3		
*	C0230			RJP TO6BCO	00227	26000	0C0C1	CONVERT 6 BCD CHAR ARG IN Q A	
*	C0231			SEL SET*4000000000	00230	65000	0C254	NS IN A	PANGEODE
*	C0232			ENT B4*4	00231	50030	0C332		
*	C0232				00232	12400	0C0C4		

..... WESTFIRD .....

SPURT OUTPUT NO. 210  
JOO•2/1/65

CARDS	L1	L2	L3	L4	STATEMENT	LUC	F	JKB	Y	NOTES
					RPI SOD•ADOB	00233	70300	00062		
C0233					STR A•W(0+04)	00234	15034	00000		
C0234	STR	SANG			CL W(DOPSIGN)	00235	16030	00313		
C0235	DLMSDCP				ENT Q•W(SAVEDOOP)	00236	10030	00305		
C0236					SUB Q•7•00000•QPOS	00237	27630	00331		
C0237					RJP COPNEG	00240	65000	00143		
C0240					MUL W(MRATIO)	00241	22030	00344		
C0241	MUL				LSH AQ•1	00242	07000	00001	CPS BO IN A	
C0242	LSH	A•Q			RJP TOBSC0	00243	15000	00000		
C0243					ENT Q•W(DOPSIGN)•QPOS	00244	65000	00254		
C0244					ENT SET•6040000000	00245	10230	00313	NEG DOPPLER	
C0245					SEL SET•6000000000	00246	50030	00340		
C0246					ENT B4•4	00247	50030	00341	POS DOPPLER	
C0247					RPT SOD•ADOB	00250	12400	00004		
C0250					STR A•W(0+04)	00251	70300	00062		
C0251	STR	SMSCCP			JP L(WFRUN)	00252	15034	00000		
C0252					ENTRY CL W(ANS)	00253	61010	00127		
C0253					CL A	00254	61000	00000		
C0254	TR6BCC				CL 100	00255	16030	00307		
C0255					DIV 100	00256	11000	00000		
C0256					STR A•W(ANS)	00257	23000	00012		
C0257					CL A	00260	15030	00367	U	
C0260					DIV 100	00261	11000	00000		
C0261					CL 100	00262	23000	00012		
C0262					LSH A•4	00263	06000	00004		
C0263					RPL A+Y•W(ANS)	00264	24030	003C7	T+U	
C0264					CL A*	00265	11000	00000		
C0265					DIV 100	00266	23000	00012		
C0266					LSH A•BD	00267	06000	00010		
C0267					RPL A+Y•W(ANS)	00270	24030	003C7	H+T+U	
C0270					CL A*	00271	11000	00000		
C0271					DIV 100	00272	23000	00012		
C0272					LSH A•120	00273	06000	00114		
C0273					RPL A+Y•W(ANS)	00274	24030	003C7	T+H+T+U	
C0274					CL A*	00275	11000	00000		
C0275					DIV 100*	00276	23000	00012		
C0276					LSH A•160	00277	06000	00020		
C0277					RPL A+Y•W(ANS)	00300	24030	003C7		
C0300					LSH Q•200	00301	05000	00024		
C03C1					RPL Y+Q•W(ANS)	00302	34030	00307		
C03C2					EXIT	00303	61010	00254		
C03C3					C	00304	00000	00000		
C03C4					C	00305	00000	00000		
C03C5					C	00306	00000	00000		
C03C6					C	00307	00000	00000		
C03C7					C	00310	01022	22000	DEC	
C0310					C102222000					*0161029830
C0311	WFRANGE				C	00311	00000	00000		
C0312	WFDCPPLER				C	00312	00000	00000		
C0313	DCPSIGN				C	00313	00000	00000		
C0314	INIXAZEL				C	00314	00000	00000		
C0315	FRATIC				C	00315	00000	00000		
C0316	ANSINT				RJP MSINT	00316	65000	00000		

CARDS		LI ID	LABEL	TA STATEMENT			SPURT OUTPUT NO. 210 JOD 21/65	NOTES
*	C0317	MSINBCW		U-TAG	MSINDATA+5@MSINDATA	00317	00325	0C320
*	C0320	MSINDATA		RESERVE	6	00320	00000	0C0C0
*	C0321	STATUS		C		00326	00000	0CCC0
*	C0322			NO-QP		00327	120000	000C0 DUMMY
*						00330	00014	4CCCC
						00331	00026	7C660
						00332	400000	000C0
						00333	020000	1C0C0
						00334	00007	50220
						00335	60007	0C0C0
						00336	17770	0C0C0
						00337	20000	0C0C0
						00340	60400	000C0
						00341	60000	000C0

END OF LISTING

SPURT OUTPUT NO. 211

JDO•2/1/65

WESTFORD

LABEL	LOC	LABEL	LOC	LABEL	LOC	LOC
A\$#####1111	00330	A\$#####1112	00331	A\$#####1113	00332	ADSCN
A\$#####1114	00333	A\$#####1115	00334	A\$#####1116	00335	ACQELEV
A\$#####1117	00336	A\$#####1118	00337	A\$#####1119	00340	ACTUAL TIME
A\$#####111A	00341	ACQAZIM	63071	ALNGOFSET	63075	ADSCN
ACQUI	63427	ACTUAL TIME	63142	ARCOFAZIM	63106	ANS
AESCN	63417	ARCOFAZIM	63524	ARCOFOEC	63126	ARCOFOEC
ANSINT	00316	CDCON	63530	ASTROECE	63106	ASTROECE
ARCOFELEV	63522	AUPEREQUAT	63341	AZELOTIME	63512	AZIMOFFSET
ASTROA	63105	AZIM	63053	AZIMAOO	63442	AZIMAOO
AZELHSCAN	63500	AZIMOVER	63325	BOODYSIZE	63462	BOODYSIZE
AZIMOUT	6400U	AZMTHSCAN	63501	CONVERTIME	63135	CONVERTIME
AZIMIN	75C00	CDCON	63414	COSAZEL	63070	COSAZEL
BLASTUFF	63146	COSORIENT	63065	CELCOMGM	63424	CELCOMGM
CCRCT	63420	CELBODY	63113	CHCR	63422	CHCR
CAZIM	63060	CELTIME	63133	CROSSOFFSET	63516	CROSSOFFSET
CELEV	63061	CHANGE	63057	DOPNEG	00143	DOPNEG
CHPAR	63431	DOMSRVGE	00223	DOPSIGN	00313	DOPSIGN
CMNSDOP	00235	DOPPADO	63444	DATANALYZE	63425	DATANALYZE
DCPPDOP	66000	DRANGE	00151	DEC_OFFSET	63515	DEC_OFFSET
DCRANGE	CD152	DEC	63003	DELTAEE	63316	DELTAEE
CAY	63150	DECLIN SCAN	63505	DOYOMP	63421	DOYOMP
CECOT	63010	DOMSEC TTG	63154	ELEVOUT	65000	ELEVOUT
CSECONDS	63141	ELEVOUT	63513	ELVINSCAN	63502	ELVINSCAN
ELEV	63054	ELEV	76000	EXPNAME	63350	EXPNAME
ELEVADD	63443	ESTSHIFTED	63143	FLATTENING	63337	FLATTENING
EQUATOR	63323	FIRSTTHR	63153	FREQUENCY	63317	FREQUENCY
FIRSTELEV	63104	FATIO	00315	GMTMO024	63145	GMTMO024
FRAMESIZE	631U1	GEODETLAT	63321	HOURMINUTE	63137	HOURMINUTE
GCCECNLAT	63322	HOLONDHOL0	63511	IDIORADIO	66777	IDIORADIO
GWTSHIFTEC	63144	HEIGHT	63326	ID12RA010	70775	ID12RA010
HURREG	63151	ID12RA010	67777	ID15RA010	71777	ID15RA010
IC11RADIC	67776	ID15RA010	71776	ID18RA010	72777	ID18RA010
IC14RADIC	70776	ID18RA010	72777	ID24RA010	73776	ID24RA010
IC17RADIC	72776	IO1ENT PNT	63410	ID1RA00UR	63050	ID1RA00UR
IC1CELCRR	63000	IO1RECORD	63210	ID1SYSPAR	63130	ID1SYSPAR
IC1RADIC	63440	IO1SYSNAM	63310	ID22RAD0	74777	ID22RAD0
IC1SYNAM	77676	IO21RAD0	74776	ID25RAD0	76775	ID25RAD0
IC2CRADIO	73777	ID24RAD0	75777	ID2CELCOR	63001	ID2CELCOR
IC23RADID	75776	ID9RAD0	63001	IDNEVA0D	63447	IDNEVA0D
IC26RADID	76776	ID2RAD0	63441	ID2SYSNAM	77677	ID2SYSNAM
IC2RADCCR	63C51	ID3RAD0	63776	ID3RAD0	63776	ID3RAD0
IC2SYSENT	77577	ID4RAD0	64776	ID5RAD0	64777	ID5RAD0
IC2TIME	63131	ID6RAD0	66777	ID7RAD0	66776	ID7RAD0
IC5RADIC	64776	ID8RAD0	66776	ID9RAD0	63446	ID9RAD0
ICBRA0D	65777	ID9RAD0	66776	INTER	63413	INTER
INDEXAZEL	C0314	INELVA0D	63447	INTEROPP	74000	INTEROPP
INTERAZIM	7200U	INTERCOM	63426	INTERPRE	76777	INTERPRE
INTEREEEV	7300U	INTERLCKS	63460	LOOPTRIN	00062	LOOPTRIN
KFERNM	63342	KYBROL EVEL	63110	MAINSWITCH	63134	MAINSWITCH
LONGITUCE	63320	LSPERAU	63336	MILLSTMA00	63451	MILLSTMA00
MCPIILLER	7100U					

SPURT OUTPUT NO. 211

JOO#2/1/65

WESTFORD

LABEL	LOC	LABEL	LOC	LABEL	LOC
MINREG	63152	MSFREQ	633332	MSINBCW	00317
MSINDATA	00320	MSININT	00023	MSRATIO	00304
NPERAU	63340	POLE	63324	PERIODAZIM	63523
PERIODDEC	63525	PERIODLEV	63521	PERIODRA	63527
PLOTP	63436	PLANP	63434	PREVIOUSTH	
PRLCG	63423	PUPAZI	00065	PUPOOPP	00110
PUPEL1	00071	PUMFAE	00202	ROTATEAEBX	63507
RCTATERACN	63506	ROTATEROBX	63510	RA	63002
RACFFSET	63514	RAOOT	63007	RAOARMOE	63312
RACCBSXSCAN	63503	RAOEO TIME	63531	RADIODEC	63541
RAIOMETER	63102	RAOTOR A	63540	RAOIUS	63006
RADIUSOOT	63011	RANGE	63052	RANGEOUT	70777
RANGEAOOC	63445	RANGEDOT	63062	RASCTNSCAN	63504
RCMTR	63430	ROXXX	63433	RECORDSIZE	63112
RECAZIM	67000	RECEIVE V	70000	REFILE	63212
RECRD	63415	RECRDS WTCH	63155	RELEASESH	63156
RFACTOR	00310	RHERE	00114	SAVEOOPP	00305
SAVEDRNG	00306	SAZIM	63055	SCETIME	63134
SDEC	63005	SECONDS	63140	SELEV	63056
SETB3	00137	SETTOPNEG	00147	SIDERTIME	63012
SINCRIENT	63064	SINAZE L	63066	SKIP	63331
SRA	63004	SRADTIME	63136	STATUS	00326
STR3MOAZ	00216	STR3MOEL	00217	STRAE1	00070
STRAE2	C0074	STRAE3	00075	STRAE4	00076
STRAEXTRA	00103	STROOP	00141	STRMSAZ	00203
STRMSOOP	C0252	STRMSFL	00207	STRMSRNG	00234
STRNG	00164	SYNTMING	63542	SYSCOMREG1	63452
SYSCDMREG2	63453	SYSCOMREG3	63454	SYSCOMREG4	63455
SYSCOMREGS	63456	SYSCOMREG6	63457	SYSENTRIES	77600
SYSNAME5	77700	SYSTAT1	63313	SYSTAT2	63314
SYSTAD0	63315	T06BCD	00254	TIMECORR	63107
TIMEODE	63103	TIMEP	63435	TIMETOHOL	63520
TRUE RANGE	63063	TRUE TIME	63132	TTSTATUS	63111
TWCSECOCP	63017	VELOFLIGHT	63335	VIZDEC1	63014
VIZDEC2	63016	VIZRA1	63013	VIZRA2	63015
WESTFORC	00000	WFDR0	63432	WFAD0	63450
WFDCPPLER	C0312	WFFREQ	63333	WFINIT	00002
WF RANGE	DD311	WFRUN	00027	YEARMONTH	63147
YRTRAV	63327	ZRTRAV	63330		

END CF LISTING

SPURT OUTPUT NO. 212	JDD*2/1/65	LABEL	LOC	LABEL	LOC	LOC
WESTFORD				WFINIT	000023	
WFRUN	00027	LOOPTRN	000062	PUPAZI	000065	
STRAE1	0007U	PUPELL	00071	STRAE2	00074	
STRAE3	C0075	STRAE4	00076	STRAEXRA	00103	
PUPCUPP	00110	RHERE	00114	SETB3	00137	
STRCUP	00141	DOPNEG	00143	SETDOPNEG	00147	
DCRANGEX	CC151	DORANGE	00152	STRNG	00164	
PUMFAPE	C0202	STRMSAZ	00203	STRMSEL	00207	
STR13MAZ	C0216	STR3MDEL	00217	DOMSRNGE	00223	
STRMSPNG	C0234	DOMSDOP	00235	STRMSDOP	00252	
TC6BCD	C0254	MSRATIO	00304	SAVEDDOP	00305	
SAVEDONG	C0306	ANS	00307	RFACTOR	00310	
WFANGE	00311	WFDOPLER	00312	DOPSIGN	00313	
INDEXAEI	C0314	FRATIO	00315	ANSMINT	00316	
MSINRCW	C0317	MSINDATA	00320	STATUS	00326	
A\$\$\$\$\$1111	C0330	A\$\$\$\$\$1112	00331	A\$\$\$\$\$1113	00332	
A\$\$\$\$\$1114	00333	A\$\$\$\$\$1115	00334	A\$\$\$\$\$1116	00335	
A\$\$\$\$\$1117	00336	A\$\$\$\$\$1118	00337	A\$\$\$\$\$1119	00340	
A\$\$\$\$\$111A	C0341	ID1CELCOR	63000	ID2CELCOR	63001	
RA	63002	DEC	63003	SRA	63004	
SCEC	63005	RADIUS	63006	RADOT	63007	
CECC01	63010	RADIUSDOT	63011	SIDERTIME	63012	
VIZRAL	63013	VIZDEC	63014	VIZRAZ	63015	
VIZDEC2	63016	TWOSEC00P	63017	IDIRACOR	63050	
IC2RADCCR	63051	RANGE	63052	AZIM	63053	
ELEV	63054	SAZIM	63055	SELEV	63056	
CRANGE	63057	CAZIM	63060	CELEV	63061	
RANGE01T	63062	TRUE RANGE	63063	SINORIENT	63064	
CCSCREEN	63065	SINAZEL	63066	COSAZEL	63070	
ACQAZIM	63071	ACQLEV	63075	FRAMEZIE	63101	
RADIOMETER	63102	TIME0DE	63103	FIRSTLEV	63104	
ASTRODRA	63105	ASTRODEC	63106	TIMECORR	63107	
KYBRDLEVEL	63110	TYSTATUTS	63111	RECORDSIZE	63112	
CELDODY	63113	IDIETIME	63130	ID2TIME	63131	
TRUE TIME	63132	CELTIME	63133	SCETIME	63134	
CONVERT TIME	63135	SRAOTIME	63136	HOURMINUTE	63137	
SECONDS	63140	DECOVOS	63141	ACTUALTIME	63142	
ESTSHFTED	63143	GMTSHIFTED	63144	GMTMOD24	63145	
BLASTOFF	63146	YEARMONTH	63147	DAY	63150	
HCUREG	63151	MINRES	63152	FIRSTHRU	63153	
CUMSECTG	63154	RECROSWITCH	63155	RELEASESH	63156	
IDIRECR	63210	ID2RECRD	63211	RECFILE	63212	
IC1SYSPAR	63310	ID2SYSPAR	63311	RADARMODE	63312	
SYSTAI1	63313	SYSTAI2	63314	SYSTAO	63315	
DELTATE	63316	FREQUENC	63317	LONGITUDE	63320	
GEODELLAT	63321	GEODEYLAT	63322	EQUATOR	63323	
PCLE	63324	AZIMOVER	63325	HEIGHT	63326	
YRTRAN	63327	ZRTRAY	63330	SKIP	63331	
WFREQ	63332	WFREQ	63333	MAINSWITCH	63334	
VLCEFLIGHT	63335	VLCEFLIGHT	63337	FLATTENING	63338	
NMPERAU	63340	AUPEREQUAT	63341	KMPERAM	63342	

SPURT OUTPUT NO. 212

JDU#2/1/65

LABEL	LOC	LABEL	LOC
EXPNAME	63350	IDENTPNT	63410
MCPGM	63412	INTER	63413
RECRD	63415	ADSCN	63416
CORCT	63420	DYDMP	63421
PRLOG	63423	CELCOMP <del>G</del>	63424
INTERCOM	63426	ACQUI	63427
CHPAR	63431	WFORD	63432
PLANP	63434	TIMEP	63435
ICIRADIO	63440	ID2RADID	63441
ELEVADD	63443	DOPPAD	63444
INAZIMADD	63446	INELEVADD	63447
MILLSTNADD	63451	SYSCOMREG1	63452
SYSCOMREG3	63454	SYSCOMREG4	63455
SYSCOMREG6	63457	INTERLKSW	63460
BODYSIZE	63462	AZELDX SCAN	63500
ELVTSNSCAN	63502	RADCBX SCAN	63503
DECLINNSCAN	63505	ROTATERADN	63506
RCTATERCBX	63510	HOLONJHOLD	63511
ELEVOFFSET	63513	RADOFFSET	63514
CRSSOFFSET	63516	ALNGOFFSET	63517
PERIODLEV	63521	ARCOFFLEV	63522
ARCOFAZIM	63524	PERIDDEC	63525
PERIODRA	63527	ARCOFFRA	63530
AZELOTIME	63532	RADIORA	63540
SYNCTIMING	63542	ID3RADIO	63776
AZIMOUT	64000	ID5RADIO	64776
ELEVOUT	65000	ID7RADIO	65776
DOPPOUT	66000	ID9RADIO	66776
RECZIM	67000	ID11RADIO	67776
RECELEV	70000	ID13RADIO	70775
RANGEOUT	7D777	MCPFILTER	71000
ID16RADIO	71777	INTERAZIM	72000
ID18RADIO	72777	INTERLEV	73000
ID20RADIO	73777	INTERDPP	74000
ID22RADIO	74777	AZIMIN	75000
ID24RADIO	75777	ELEVIN	76000
ID26RADIO	76776	INTERANGE	76777
ID2SYSTEM	77577	SYSENTRIES	77600
ID2SYSNAM	77677	SYSNAMES	77700

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J. T. Gilmore  
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